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AT A GLANCE

MARCH 17TH

St. Patrick's Day

Did you know St. Patrick's Day is also a public holiday in Montserrat?

MARCH 21ST

Mass Effect: Andromeda

SPACE GAME. SPACE GAME. SPACE GAME. SPACE GAME.

APRIL 1ST

April Fools Day

We'll be announcing our offical name change to Knitting Gamers

APRIL 11TH

Yooka-Laylee

A throwback to platformers of old, Playtonics debut game arrives.

DIARY DATES

GMGC BEIJING
MAR 16–17, 2017
China National Convention Center, Beijing

GMGC Beijing

March 15th

Beijing, China

en.gmgcongress.com

MARCH

Apps World Germany 2017
March 15th, Berlin, Germany
germany.apps.-world.net

SXSW Gaming 2017
March 16th, Austin, Texas
sxswgaming.com

UK Games Industry Valuation
March 16th, London, UK
bit.ly/2mvedYX

EGX Rezzed 2017
March 30th, London, UK
egx.net/rezzed

APRIL

VRLA Expo 2017
April 14th, Los Angeles, California
virtualrealityla.com/expo-2017

Games Week Denmark
April 19th, Copenhagen, Denmark
gamesweek.dk

A.MAZE./ Berlin 2017
April 26th, Berlin, Germany
amaze-berlin.de

Tehran Game Convention
April 29th, Tehran, Iran
gamesweek.dk

EVENT SPOTLIGHT

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www.bafta.org/games

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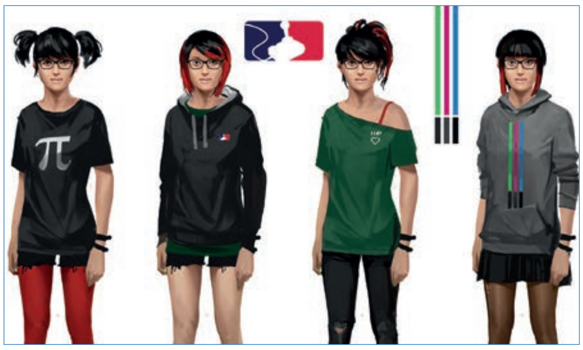
THE GDC ROUNDUP

Now we're back from San Francisco, we'll bring you all the best information and interviews from the show



DEVELOP #182

CONCEPT AND CHARACTER ART

We'll look at the best visuals in the games industry, showcasing them from concept all the way to release

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Should mental health be a theme touched on in video games? We ask developers how they've approached the tender subject and how other devs can do the same.

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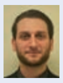
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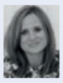
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Editorial

I've just arrived back from my first GDC. Despite ten years in the industry, it's the only major conference that had managed to elude me.

Which is a shame, in retrospect, because I had a great time over in San Francisco. GDC has an amazing, buzzy atmosphere thanks to the diverse mix of game developers brought together in one place.

It mirrors the goal of Develop – to be relevant and interesting to anyone who develops games. From indie to AAA. In our quest for that I'm proud to present what we've been calling internally the 'human edition' of the magazine.

> I'm proud to present what we've been calling internally the 'human edition' of Develop.

This month we're focusing on human issues which, as someone with a history of mental illness, is something very close to my heart. As is our continued focus on diversity and inclusion.

There are articles on other 'human issues', too. Such as our feature on how SpecialEffect brings accessibility to our favourite games, or our chat to charity War Child about its video game campaigns.

I hope you'll find these entertaining and informative and I welcome your comments and feedback.

I'll be over here, playing the hell out of *Zelda*.

Jem Alexander
jalexander@nbmedia.com

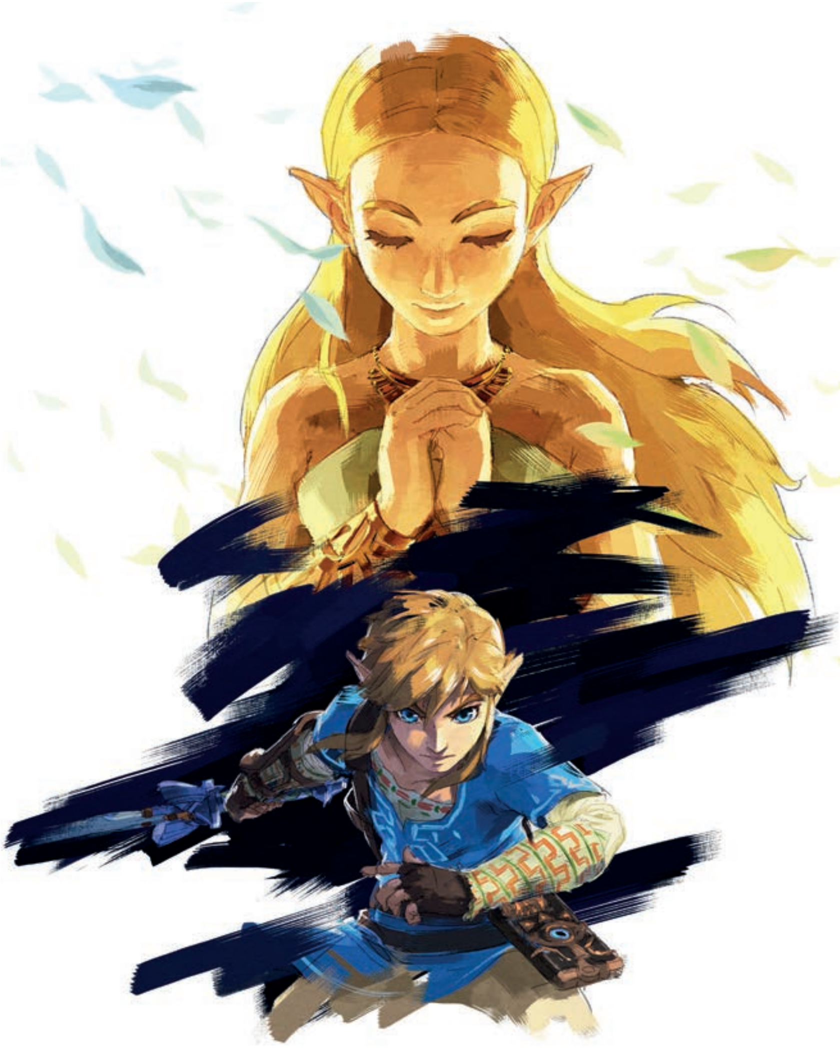
IN FOR THE LONG HAUL

Just one hop across the Atlantic was enough to convince **Jem Alexander** that the Switch may well be the best console to be released by Nintendo since the GameCube.

Maybe it's the jet lag or the chilled out Bay Area vibe but, Nintendo Switch: I love you, man. I'm currently out in San Francisco attending the Game Developers Conference and it's been a perfect opportunity to put the Switch through its paces. Nintendo has been downplaying the fact that this is a true handheld console, saying that they have no intention of killing the 3DS anytime soon. But after spending 11 hours on a plane with the Switch, I have to assume that somewhere in Kyoto, someone is putting the finishing touches on the poor 3DS' burial plot.

Which is sad, I suppose. An end to the dual screen era that began way back in 2004. Not a bad run, though, and a hell of a software library to celebrate. Some of my very favourite games played out across those tiny screens, such as *The World Ends With You*, *Professor Layton* and *Ghost Trick*. With the Wii U, Nintendo even tried to recreate that same experience for home console users. As the house of *Mario* commits that failed experiment to the great Electronics Boutique in the sky, it prepares to launch the total antithesis of the Wii U. The full home console experience, but in your hands.

And wow does it deliver on that promise with absolutely zero compromise. We're hitting hyperbole hard (and an appealing amount of alliteration) early in this article folks, but I'm happy to throw in my lot with the Switch at this point. My experience with the console is based solely on pre-release firmware (no online functionality whatsoever) and a single game. Sure, that game happens to be *The Legend of Zelda: Breath of the Wild*, and maybe there's a degree of reflected glory that the Switch is enjoying from being associated with the latest in Nintendo's crown jewel franchise. Or maybe *Breath of the Wild* feels even more enjoyable because I can play it literally anywhere.



I suspect it's a little of both. There's a curious phenomenon that happens whenever I switch between playing on my 4K TV and the handheld device. Plastering it over my big screen and sitting back with the puppy dog controller I think to myself "this looks fantastic, why would I ever play it on that tiny little screen?". And yet yanking it out of its cradle and watching it move instantly onto the handheld device, I have much the same reaction. *Zelda* looks pretty great (and greatly pretty) on both screens. At no point do I feel like I'm missing out on graphical fidelity. I think for anyone who has played games for a while, it's hard not to see the two versions as just that – two versions. Running on different hardware.

What does it say that I haven't quite got my head around this idea yet? Soon it'll be commonplace and the magical will become the mundane, as it did with the PlayStation VR, *Rock Band* and video games in general. Hopefully not too soon, though.

But as I said, it was the flight over to San Francisco that really sold me. I'm very lucky in that I find it incredibly easy to sleep on planes. Plug in some music and drift into a semi-lucid waking dream of "please pay attention to our safety demonstration" and crying babies. A gentle rise and fall between deep slumber and every so often opening one eye to make sure I haven't yet crashed on the LOST island. My point is, I normally spend as much time in the air as possible subconscious.

On this flight I barely slept (that might explain the jet lag), instead I played the new *Zelda* – possibly even the best *Zelda*, certainly the most advanced *Zelda* – for three solid hours (plus a little more after a snooze-based recharge for both the Switch and myself). I rarely play games for that long in the comfort of my own home. It was a great feeling after being such a slave to the PSP and Vita's "yeah it's a great game, but it feels shrunk down for handheld" vibe. Those slightly boxy *God of Wars* or the ugly duckling of the *Uncharted* franchise which, bless it, does its best to mimic its older siblings but feels just too cramped. Sure, *Breath of the Wild*'s no 4K HDR graphical tour de force, but it can and does look breathtaking.

So yes, the 3DS is dead. But think about what that means for the Switch's library. If Nintendo focuses all of its teams – across handheld and home console – on one device, we could see one of the greatest game libraries of all time.

And maybe you'll be a part of that. I'm hoping as many of you as possible are thinking of making games for the Switch, because that instant transition from home console to handheld is, to me, a real game changer. ■

FREE TO STAY

Mobile games and F2P are occupying **Sean Cleaver's** world this month. But what is it that keeps him there?

The quarter mile in motor racing is a race on a flat strip of straight tarmac that sees two cars duel to the line. It's a pure test of the cars speed and the driver's ability to control the beastly horsepower they wield. It's what I've been doing a lot over the past few months with *CSR2*.

And I'm still there. I'm racing, saving up my keys so I can chance my luck at the Rare Imports section and saving up enough cash so I can get the next level of car and progress with the story. I have not yet spent any money.

I'm not adverse to spending money at all. In fact I'm quite a fan of mobile games and when asked, I will always put *Game Dev Story* by Kairosoft in my top twenty games list. I even spent the required pre-brexit price hike £7.99 on *Super Mario Run*, enjoying what it gave me during its 'free to start' model.

When it comes to free to play, however, I'm less open to spending my cash. While all these games are playable, if not a tad grindy, without the microtransactions, paying would certainly make my life a lot easier and my levelling a lot quicker.

But I'm happy to stay there, grind a few times, casually pick things up and just have a little play when I feel like it. Sometimes I'm not actually aware I'm loading up the app, but I just do. Usually when I should be doing other things, like paying attention to the movie I'm watching. It's a bit like Hotel California's lyrics at that point: You can check out any time you like…

… BUT YOU CAN NEVER LEAVE

The compulsion loop seems to really grip me, although not with enough to force me to cheat it by spending money. There's something about the loop, though, that makes me want to carry on regardless. In the case of *CSR2* I think it's because I want to unlock all the cars, so it's a collection based desire – the need to acquire stuff and nonsense.

But then I've also got *Star Wars Battlefront's Base Command* game. This is supposed to allow me to earn credits for use in *Battlefront*. I've not played *Battlefront* for a while, apart from the *VR X-Wing* mission. So why am I still playing THIS game when I've so obviously spurned the rewards? Well, clearly I'm getting that reward from playing this game instead. One of my favourite board games is *Castle Panic*, a team based game where players defend a castle, and this is a game that reminds me of it. So there's familiarity in there.

Collection isn't necessarily a requirement for me to enjoy a game though. I've barely touched *Pokemon Go*, I've occasionally played *Hearthstone* although I've not finished any of the introductory tavern AI decks and even though I've paid for it, I'm not that bothered about earning all the stars or pink coins in *Super Mario Run*. So what is it?

QUANTUM THEORIES

So here are a few compulsion loops that I experience in my mobile gaming:

Intrigue –> Social Relevance (hype and bragging) –> Reward of further options

Interest (in premise/subject) –> Accessibility (including offline play) –> Window of opportunity to play

Friends (who else is playing) –> Embarrassment or success –> Emergent gameplay stories

That last one probably needs more of an explanation. Take a game like *Words with Friends*. You play it because a friend is also playing, which you find out by word of mouth or social media notification. You want to best them because, deep down, you hunt for glory and superiority. You either trounce them with your superior knowledge of language or are scuppered by a "XI" even though you've just been celebrating an eight letter wonder. Then you talk about how many rude words you've got in there via chat or messaging, creating your own story and one you want to have with others. And so the cycle repeats.

The thing that keeps me in these games isn't the fact that I can win, not really. If we could actually win then the model would be dead because there'd be an end point for any monetary transactions. It's the fact I can just do what I want to in my own time, whether that's with friends or related to an interest that only I have. They're like secret little escape apps for me to enjoy when I have a moment.

It's not about showing off or progressing, that doesn't keep me interested, and that's why I don't spend any money. It's because I'm just having the right amount of fun, so I stay – as the song says "We are all just prisoners here of our own device." ■

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develop 30 UNDER 30

In association with opmjobs.com

This is the ninth time Develop has published a 30 Under 30 list and it's been an absolute pleasure for us to do so. Thanks to the quantity and quality of nominations, this year's list has been a very tough one to moderate.

We get nominees from all over the world, and from all areas of games development – production, design, art, community, audio and more. We've made the rules as simple as we can in order to highlight the best women and men in the industry under the age of thirty.

It sounds simple, but in reality it's an incredibly difficult decision process. Because if you've been nominated then that means that you've done something. You've made an impact. Whether that's a game release, outstanding work on a project, becoming an integral part of a team, creating your own studio or, as we're seeing more and more, being a champion of advocacy – you're making the games industry a better place.

This industry is working hard at an educational level to help guide and inform the developers of the future, talking at universities, schools and events, involving more and more practical experience and creating scholarships and programs for young people.

This nurturing of talent benefits everyone from publishers to development studios to gamers, and will continue our industry's relentless march ahead as the biggest entertainment sector on the planet.

And that's one of the recurring themes of this year's list, the work that is being done to help push the drive for new talent and diversity in our industry. We didn't set out with that in mind, but it's something that everyone in games is now, rightly, investing in – securing the future.

If you've been nominated or if you are one of the final 30 on the following pages then you have our heartfelt congratulations. You have made an impact and our industry thanks you for it.

Honourable Mentions

Dean Day – **Greenlight Games**, Jennifer Nordwall – **Unity**, Kieron Baker – **Universally Speaking**, Alix Briskham – **Independent**, David Jones – **Bulkhead Interactive**, Sarah York - **Robot Zoo**, Andrew Wiley – **Red Kite Games**, Giulia Zamboni - **Gamera Interactive**, Karin Bruér – **Fast Travel Games**, Joe Kinglake – **Cloud Imperium Games**, Anthea van Leeuwen – **International University of Applied Sciences**, Derek De Filippo, Monica Ion – **Mediatonic**, Mark Hastings – **Guerilla Tea**, Daniel Santos Fonseca – **Stage Clear Studios**, Rachel Cabot – **University of Bath**, Neil Jones – **DeadArtGames**, Abhisake Goyal – **Yes Gnome Games**, Attilio Carotenuto - **Himeki Games**, Andrew James Reid - **Doctoral Researcher and Independent developer**, Jack Hamilton – **FuturLab**, Connor Stanley - **Trapped Nerve**, Nareice Wint - **Party Llama Games**, Benjamin Robert - **Libellud Digital**, Cian McNabola – **Wooga**, Stephen Taarland – **Tag Games**, Sean Oxspring – **nDreams**, Jey Kazi – **Independent**, Liam Wales – **Catalyst Outsourcing**, Elvira Lanzafame, Charles Gbadamosi – **The Secret Police**, Aran Anderson - **Foundry 42**, James Earl Cox III - **Seemingly Pointless**, Lukas Roper – **Opposable Games**, Jordan Morris, Zac Howie-Brewerton - **Pixel Blimp/Jamit Games**. Michael Lojko, Vegard Polden, Oliver Hind, Ryan Philpott, James Reid, Max Finch-Bretlaender, Emma Hall – **Jagex**, Jaime Cross – **Blazing Griffin**, Sam Bang – **Frontier Developments**, Angelika Bugl, Manuel Dupong, Mark Verkerk - **Splash Damage**, Gabriel Tay, Rike Lim, Brandon Chua, Carlos Verlee Vazquez, Jie Hui Ho, Adrian Quek, John Rickne, Quinn Choo, Heidi Kwang, Justin Chow, Fang Liang Lee, Boon Keng Goh – **Ubisoft Singapore**, Amin Sojoudi – **Independent**, Piers Duplock - **eeGeo Ltd**, Pavle Mihajlovic – **Flavourworks**, Tom Perry, Harry Gladwin Geoghan, Nick Elliot – **Playground Games**, Jamie Pendleton – **Testology**, Martin Skytte Kristensen - **SYBO Games,** Liam Charlton, Amelia Wood, Liam Mcglone, James Walton, Josh Heyde, Bryn Felton-Pitt – **Ubisoft Reflections**, John Common – **CSR-Studios**, Jarryd Huntley – **Independent**, Antony Wilkinson – **TT Fusion**, George Buckenham – **Sensible Object**, Gary Lloyd – **Sigtrap Games**, Steve Thornton – **Sperasoft**, Ashley Stancill – **HyperSloth LTD**, Kitty Crawford – **Blackstaff Games**, Dominic Brittain, Robin Scannell – **Hutch**, Daryl Dundee, Ross Stephens, Jamie Keddie , David Clarke, Stuart McGaw, Caroline Lepee, Noora Klaavu , Jamie Oates – **Outplay Entertainment**, Jessie Thomson – **Cubic Motion**, Oliver Jones - **Glu Mobile**, Amie McKenzie, Tom Sampson, Tauras Koreiva - **Sumo Digital**

Catherine Woolley (29)
Game Design, The Chinese Room

Catherine is one of BAFTA's Breakthrough Brits, has been listed three times by MCV as one of the top women in games and since 2009 has been a part of some of the UK's biggest developers. From EA to Creative Assembly and now a senior designer at The Chinese Room, it's a long overdue welcome for Catherine on Develop's 30 Under 30 list.

Also a committee member for BAFTA and a regular game jam participant, Catherine hasn't stopped since graduating from the University of Wales, Newport in 2009. She has a "non-extinguishable passion for games" and her work as an ambassador for the industry is illuminating. She also rides a motorbike, which always adds +10 cool points to anyone.

Callum MacArthur (29) – Assistant Technical Director, Ubisoft Singapore

Callum started his career working on the *Driver* Wii game at Ubisoft Reflections. He later decided to pursue his own thing and created some very popular *Skyrim* mods while searching for his next big opportunity. He eventually landed at Lionhead Studios, where he made a great impact.

Working as the technical designer for *Fable's* heroes and creatures, he proved that not only did he have a huge pool of knowledge for design but also for Unreal. He spent time being a prominent community member for *Fable Legends* and representing the game. After it's cancellation and the closure of Lionhead he headed for Ubisoft Singapore where he is an assistant technical director.

Melissa MacCoubrey (24)
Narrative Director, Ubisoft Quebec

Melissa's roster of titles is an impressive read for any developer – *Far Cry 4*, *Assassin's Creed Syndicate* and its DLC *The Last Maharaja*. If you add the fact that at 24, she's already been twice nominated for a Writers Guild of America Award, then you can see how her addition to this year's list is an easy decision to make.

Currently a narrative director at Ubisoft Quebec, Melissa is now leading a team of narrative desigers for a new AAA project at the studio. In her nomination we were told that Melissa's skills "are paired with a talent for inspiring others and a hunger for more diverse representation in games". That always gets our support.

Luke Botham (26)
Game Designer, The Illuminati Games

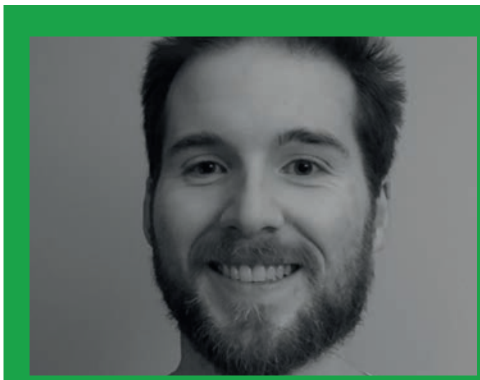
Luke joined Guerrilla Amsterdam following his stint at Sony Guerrilla Cambridge before even graduating from university. Following his graduation he continued his work on *Horizon: Zero Dawn* as a talented and passionate level designer. Since leaving the Guerrilla studios, Luke has been working at the front of the design team as a Game Designer at The Imaginati Studios Ltd. in London.

Outside of his day-work he is one of the BAFTA Games Crew and has been a keen games jammer, winning a number of jams with his teams. Luke has spent a lot of time working on his own independent projects building his knowledge and skillset to become one of the most creative designers around.

Adriana Pucciano (27)
Lead Animator, Creative Assembly

Six years ago Adriana joined Creative Assembly as a junior animator. Her career started at Disney where she worked on assets for 2010's *Split/Second* by Black Rock Studios. Since then she's been a part of every one of Creative Assembly's *Total War* releases including *Total War Atilla*, *Total War Warhammer* and *Total War Rome II*.

It has only taken Adriana two years to jump from junior animator to lead animator and her passion comes across in the nominations we have received. Adriana has been able to talk at various game expos and university as well and has a desire to help young people get inspired by the industry and the technology available to them.



Hamish Lockwood (29)
Lead Designer, Playtonic Games

Hamish left Melbourne in 2012 to work at Curve Studios in London as a designer in 2012, working on *Stealth Inc.* and *Stealth Inc. 2*. He then went on to Funktronic Labs' *Nova-111*, Mike Bithell's *Volume* and Fiddlesticks' *Hue*. Hamish then started at Playtonic Games in early 2016. After almost 5 years in the industry he's now working on *Yooka-Laylee*. It a chance to help revitalise his favourite genre and learn from the developers of his favourite childhood games. His aim is to help Playtonic create games that will similarly make the kids of today become as passionate about gaming as he is. Working alongside industry veterans, Hamish's experience will no doubt allow him to reach that goal.

Steffie Garcia (29)
Art Team Lead, Marmalade Game Studio

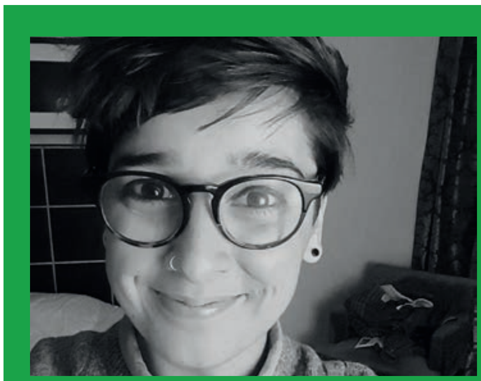
Steffie is another person on this list who has risen from a junior to a leadership role in a short amount of time.

From junior artist to team lead, Steffie has specialised in UI design and has become known as a "walking encyclopaedia of UI/UX best practices". In the past six months alone her work has played a big part in Marmalade's releases including the iOS and Android adaptation of *Cluedo*. She is also a "tireless champion for quality."

Steffie is also involved in the BAFTA Young Game Designers competition as a judge and is an advocate for getting more women into the industry, as well as taking an active role in the mentoring of Marmalade's own junior talent.

Ryan Harrison (26)
Technical Artist/Rigger, EA

Ryan has always pushed the boundaries and has been able to create things in his role that were not previously thought possible, including tools for Vicon Blade for automatically cleaning and exporting motion capture data. His career has been moving forward quickly, developing more and more advanced tools for Maya and MotionBuilder. He has also created some innovative motion capture tools and pipelines at The Imaginarium for titles such as *Battlefield One* and *Final Fantasy XV*, a far cry from his start in the industry three years ago as a QA tester for Rockstar. He's currently building some "really awesome" rigging, skinning and pipeline tools at EA on a new project.



Christina McGrath (28)
Senior Community Manager, Codemasters

Described as "creative, focused and witty(ish)", Christina has been with Codemasters since 2015. It's been a shift for the company where the focus on community feedback has been paramount in developing their most recent titles. With successful returns to the *DiRT* and *F1* franchises, Christina is credited with "dramatically" improving Codemasters' social presence. Starting in social media and now senior community manager, Christina has made great leaps, working across both the Southam and Birmingham offices and, despite only being in the industry for 14 months, we're told has made it look "entirely effortless".

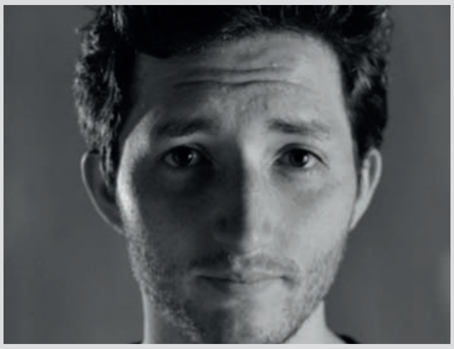
Adam Turnbull (29)
Animator, Riot Games

Adam is a super talented animator who continues to push himself. He's a great team player and all round nice chap. Adam has worked on a bunch of games including *RIGS* on PSVR, AAA games like *Horizon: Zero Dawn* and smaller handheld titles like Mediatonic's *1000 Tiny Claws*. He also made two of his own android games using Unity, most recently *Catball Bounce*, and is constantly trying to help the animation community to grow via Twitter and forums like Polycount. His animation career has brought him from Middlesbrough to Cambridge and Adam will soon be relocating to California to take the next step of his career with the world-renowned Riot Games.

Sally Blake (26)
Associate Producer, Ubisoft Reflections

Since starting her career in playtesting at Team17 back in 2010, Sally has taken on many challenges in her roles at Newcastle based Reflections. The Ubisoft studio has been working on many big franchises over the years, such as *Just Dance*, *Watch Dogs* and *Tom Clancy's The Division*. Sally's hard work has seen her progress from testing roles to becoming an associate producer.

Not only responsible for engine, online, compliance and many other teams, she has also been a judge for TIGA and has been working with the Reflections & Baltic Uber gaming school in Newcastle to promote careers in games. Sally also runs a diversity course within the studio.



Sam Browne (27)
Co-Founder and Developer, Three Knots

Sam is a member of the Warner bros. Creative Talent programme and a member of BAFTA Games Crew, and had an honourable mention in the Develop 30 Under 30 list in 2016. After graduating last year, he's already been working as a junior designer on *LEGO Dimensions* for TT Games, spoken at many public events and at St Clare's International College in Oxford. Sam has now decided to utilise his academic and practical experience from all of these programs to start up a new studio called Three Knots with a former NFTS colleague. According to our submissions, Sam is someone who "challenges convention". We look forward to seeing what he'll be up to next at Three Knots.

Zoe Sams (24)
Tools Programmer, Rockstar North

Zoe has been at one of the world's most celebrated developers, Rockstar North, for two years. After graduating from Bournemouth University in 2015, she stepped in to a junior tools programmer role and earned a promotion within a year of starting. Outside of her work, Zoe has also been voted on the board of directors for the Scottish IGDA and has worked with university students and schools to help others join the games industry through STEM.

She may be busy, but Zoe always finds time for her friends and colleagues and has quickly become a "passionate and fantastic" role model for aspiring and experienced developers alike.

Douglas Watson (29)
Lead Audio Designer, Playground Games

Douglas joined Playground Games in 2011 after graduating from the University of the West of Scotland with a First Class degree in Music Technology. His first title was the original *Forza Horizon* on Xbox 360 before working on *Forza Horizon 2*, where he was instrumental in developing new audio systems and processes.

His first leadership role was on the best-selling *Forza Horizon 3* and its award-winning *Blizzard Mountain* DLC expansion. Five years and three games since joining Playground, Douglas is now the lead audio designer and his passion and attention to detail for game sound is an inspiration to the team at Playground Games.

Melissa Knox (29)
Producer, Blazing Griffin

We received several nominations for Melissa in this year's 30 Under 30 list. One credited her impact upon joining Blazing Griffin as a producer, helping the production process of the studio. Another lauded the impact she has had on their own personal development. What is clear is that Melissa's work has won the respect and admiration of her peers. With four games as well as a BAFTA award on the shelf, Melissa's skills are also benefiting the growth of the industry. She is also an ambassador for UKIE, and the STEM ambassador program, as well as contributing her experience to Glasgow Caledonian University and being a part of BAFTA's Games Crew team.

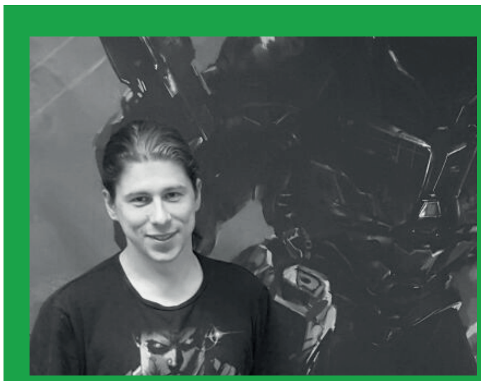
Brian Cox (28)
Console UI Programmer, Creative Assembly

Brian is a UI & Gameplay Programmer and has already worked at some of the world's top game development studios such as Rare and Creative Assembly. He has worked on and shipped games such as *Kinect Sports Rivals*, *Rare Replay*, *Sea of Thieves* and *Halo Wars 2*. On top of his office job he is also developing an indie game project called *GlitchD*. Brian likes to experiment with new technologies such as brain-controlled games and developing games to allow people with disabilities to play games. While at Rare he has created a game called *JetPac Reborn* for SpecialEffect, which you can play with only your eyes using eyetracking technology.

Naomi Kotler (25)
Games Designer, Supermassive Games

Over the past few months you may have seen features from us on recruitment, including advice from studios about getting in to the industry. Naomi is one such example of someone who has excelled at just that. From working as an intern for Supermassive Games, she quickly impressed and is now a games designer at the studio.

Naomi graduated from the National Film and Television School where she honed her talents at 3D modelling. Over the course Naomi developed a VR game called *Into The Black*, which received great acclaim from show floors and websites, as well as a nomination for a Unity Award. Naomi has already come far in a short amount of time.



Thomas Miller (29)
Senior Build Engineer, Creative Assembly

Thomas Miller joined Creative Assembly as a QA Engineer, and has been a vital part of the console team's release structure. He became senior build engineer after the success of *Alien: Isolation*, and is now a key part of shipping all the high-quality demos and releases of *Halo Wars 2* that the public have been able to enjoy. When not merging and managing the team's ocean of data you can find him brushing up on his own coding/implementation skills to help tackle the team's technical hurdles, while managing a growing force of build engineers. We hear he is also a dab hand at *Magic the Gathering*, and competes worldwide.

Sitara Shefta (27)
Producer, Sumo Digital

Sitara's six years in the industry started at EA, working on the *Need for Speed* franchise as a graduate producer. Her production skills saw her move to Sumo Digital where she's been working as an associate and now producer on titles such as *LittleBigPlanet 3*, *Disney Infinity* and currently *Dead Island 2*.

But her work outside of development is just as impressive, being awarded the Women in Games hall of fame award, being an advocate of diversity in gaming and being part of the judging panel for both BAFTA's Young Game Designer awards and the BAFTA Games awards. Sitara has spoken on many panels, not only about diversity of gender but also ethinic minorities in gaming.

Adrian Lim (28)
Gameplay Programmer, Ubisoft Singapore

Having been in the game industry for more than ten years, Adrian Lim contributes his energy and insights to the Ubisoft team as a gameplay programmer. He brings invaluable experience and understanding of the industry from his experience at EA and Gambit MIT and was twice the finalist of the Independent Game Festival, Penny Arcade Top 10 and winner of *DreamBuildPlay*. He is currently spearheading a AAA project. Adrian has given multiple talks in conferences and schools, encouraging and mentoring students to pursue their interests in games. He continually upgrades himself and is currently pursuing a postgraduate degree, with hopes to be a technical pillar to make an impact on the games he produces.

Laura Hutton (27)
Artist, Ubisoft Reflections

Laura has been a 3D Artist at Ubisoft Reflections for the past four years, working in different capacities across many projects. At the Newcastle studio she has worked on many titles including *Grow Up*, *The Crew* and *Tom Clancy's The Division* to name a few. Laura has in fact been involved in a major AAA release each year for the past five years. Her career started for Ubisoft in India and, since returning to the UK, she's been helping out in local education and organising many internal game jams for the studio. “Imbued with a keen passion,” she's currently playing a key role in the development of *Grow Up* and looks to be adding to her list a sixth annual AAA release on the trot.

Gavin Bird (28)
Graphic Designer, Ubisoft Montreal

Throughout his career Gavin has never stopped improving as an artist, working on a huge range of different projects across multiple platforms. From his work on UI at Crytek and Sony, he eventually became part of the core art team at Cloud Imperium where, as well as creating a lot of the in-game UI, he was the creator of the *Big Benny* franchise. Gavin most recently joined Ubisoft Montreal, taking on new challenges as part of the *For Honor* team. Friends and colleagues say they've seen Gavin exceed expectations everywhere that he's worked, and that he is an incredibly hard working, talented and friendly individual, always quick to make friends with everyone that he meets.

Anna Harakopoulos (28)
Founder and Director, NinetySix Games

Anna definitely has the most envy-inducing work location. She is currently workingon on her first solo title in Barbados and has started up a local chapter of IGDA. But her work history is equally as exotic.

Anna has worked for many companies and on multiple titles including *Company of Heroes 2* and *Alien Isolation* for SEGA, a 3DS *Doctor Who* title for Somethin' Else and *New Art Academy* for Headstrong. Over the years Anna has given talks, including one at the University of Warwick, on getting into the industry, was nominated for the Campaigner award for the Women in Games Awards and was awarded a scholarship by the Diversity in Games Alliance.

Richard Pring (29)
Co-Founder and Technical Director, Wales Interactive

Richard played a major role in kick-starting a significant sustainable video games industry in Wales by project managing the first Welsh video games hub, GamesLab Wales. He then went on to co-found Wales Interactive, which is now the leading video games studio in Wales, responsible for games such as *Master Reboot*, *Soul Axiom*, *Coffin Dodgers* and *The Bunker*. In the five years since he's started Wales Interactive, he's produced 21 titles with a team of 10, with plans to rise to 25 by the end of 2017. All told these titles have had over 40 awards and nominations including a BAFTA Cymru award, TIGA Games Industry Award and Develop Award nominations.

Louise James (29)
Generic Evil Business Ltd

Louise is currently running Generic Evil Business Ltd, creating custom codes and assets. Though her efforts within the games industry go beyond that of being a code paramedic, hired to fix programming woes. Since her work adding the multiplayer elements to *Plague Inc* and designing the UI for *The Swindle*, she's been busy building her company. Currently she's working on porting more unnanounced games to current generation consoles and handhelds in a solo capacity. In addition to this, Louise has also set up *Ikonoclast.love* in an effort to help address the lack of games that are aimed at or about gay women, and help the industry create more diverse games.

Ross Wilding (29)
Senior Level Designer, Foundry42

Ross has spent the past eight years working in AAA game development. The first six of those were spent at Travellers' Tales, where he worked on a number of *LEGO* games. Ross quickly moved from QA to design, where he established himself as a key member of the team, working his way up to lead level designer and level director. With a real passion to make the best games possible, Ross spent the next two years at Deep Silver's Dambuster Studios as senior level designer, developing and aiding in the completion of *Homefront: The Revolution*. Ross now looks to his biggest role yet as senior level designer at Foundry 42 to work on the highly anticipated *Star Citizen*.

Sally Kellaway (28)
Creative Director, Ossic

Sally has been doing excellent work on the other side of the world. Having helped to strengthen the VR industry in Australia by setting up VRCC, the Virtual Reality Content Creators network, she has helped to enable women find roles in the gaming industry, working to find and encourage people to develop for VR. Her work has also led to her role as creative director for 3D audio specialist Ossic. Working in and evangelising the VR and audio media has helped Sally to raise awareness of these areas as development possibilities for studios, and she's been doing this by setting up specalist groups and meet ups, along with presenting a talk at GDC 2017.

Darasimi Makinde (26)
Designer, Marmalade Game Studio

Darasimi joined Marmalade Game Studio straight from university and took to his new role instantly. His official role is designer and it's said he has a fantastic instinct for good design, coupled with knowledge of the value of feedback and iteration. But Darasimi wears many different hats for Marmalade, which makes him incredibly flexible and valuable. His background is in coding, so he is able to jump in and get his hands dirty and he loves to be thrown in at the deep end so that he can learn new skills, whether it be prototyping or video editing. Thus far there doesn't seem to be anything that Darasimi cannot turn his hand to, which assures Marmalade that he has a great future ahead of him.

Rosa Carbo-Mascarell (24)
The Creative Industries Federation

Rosa's list of achievements are already rather large. Starting in games in 2015 she started Lucid House, which won the MYGEOSS Innovative App Award from the European Commission for *E-Sol*. She has also worked as an artist for The Chinese Room helping create the island in *Dear Esther* and as a producer for VideoBrains, the London based video game talk event.

She has also worked for GamesAid where she helped the charity raise nearly £1 million and organised many events including the Jam Jar for Global Game Jam and the Stand up for GamesAid event at the London Games Festival. Rosa was also recognised in the BAFTA Guru scheme as a rising star in 2016.

Andy Booth (28)
Technical Director, d3t Ltd.

Andy has played a pivotal part in the growth of d3t and in d3t's contribution to job creation and retention of talent within the North West. The studio now has nearly 40 full-time staff working on technology projects within the video games industry, and other technology sectors. Andy has led the recruitment process and established a committed team, which he leads by example. Andy was appointed technical director in 2015, is a technically brilliant programmer and adapts to different languages, engines, technologies and platforms at lightning speed.

He is a superb mentor who shares his knowledge and demonstrates total commitment to his craft.

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> *Rami Ismail, Vlambeer*

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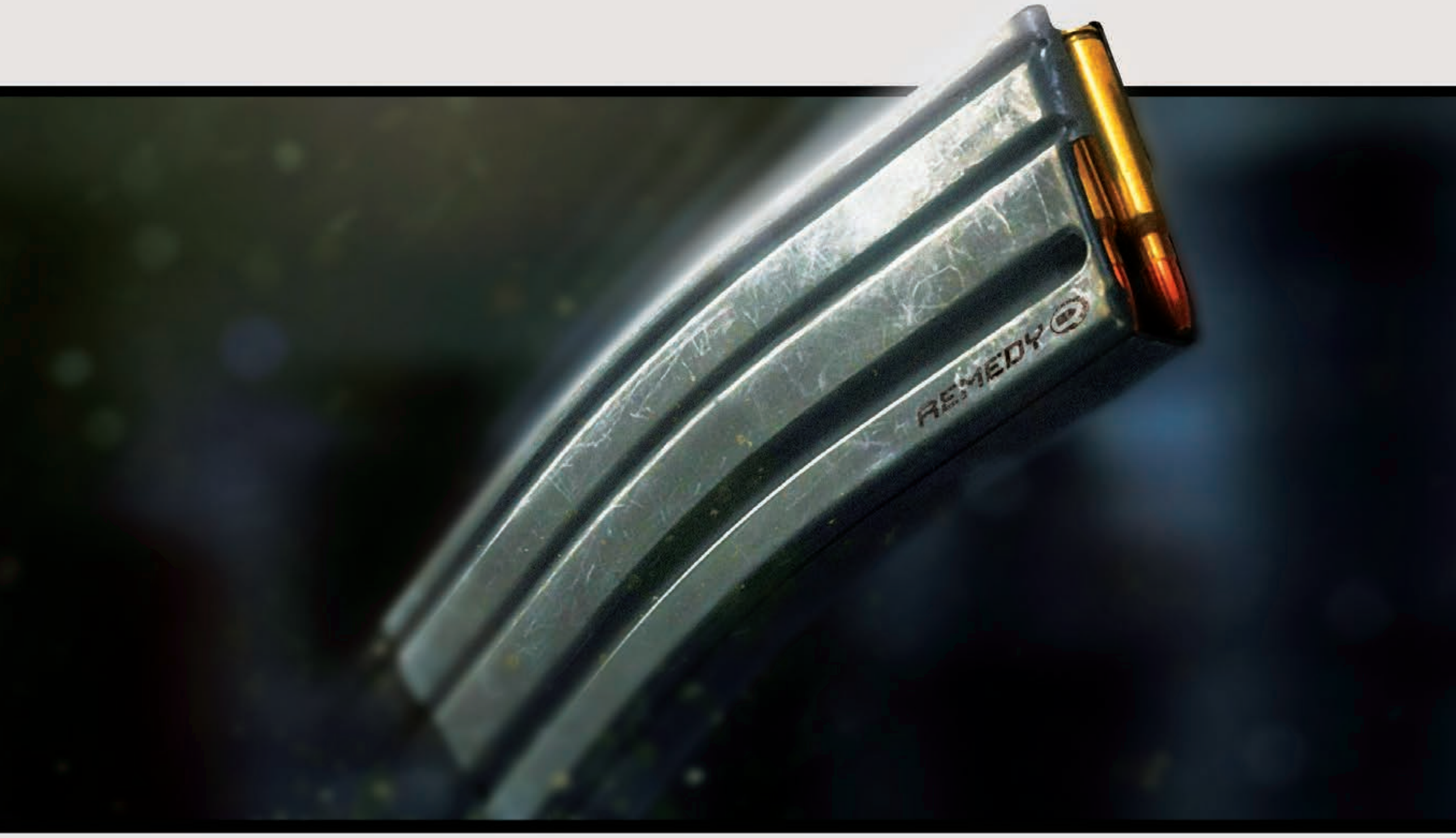

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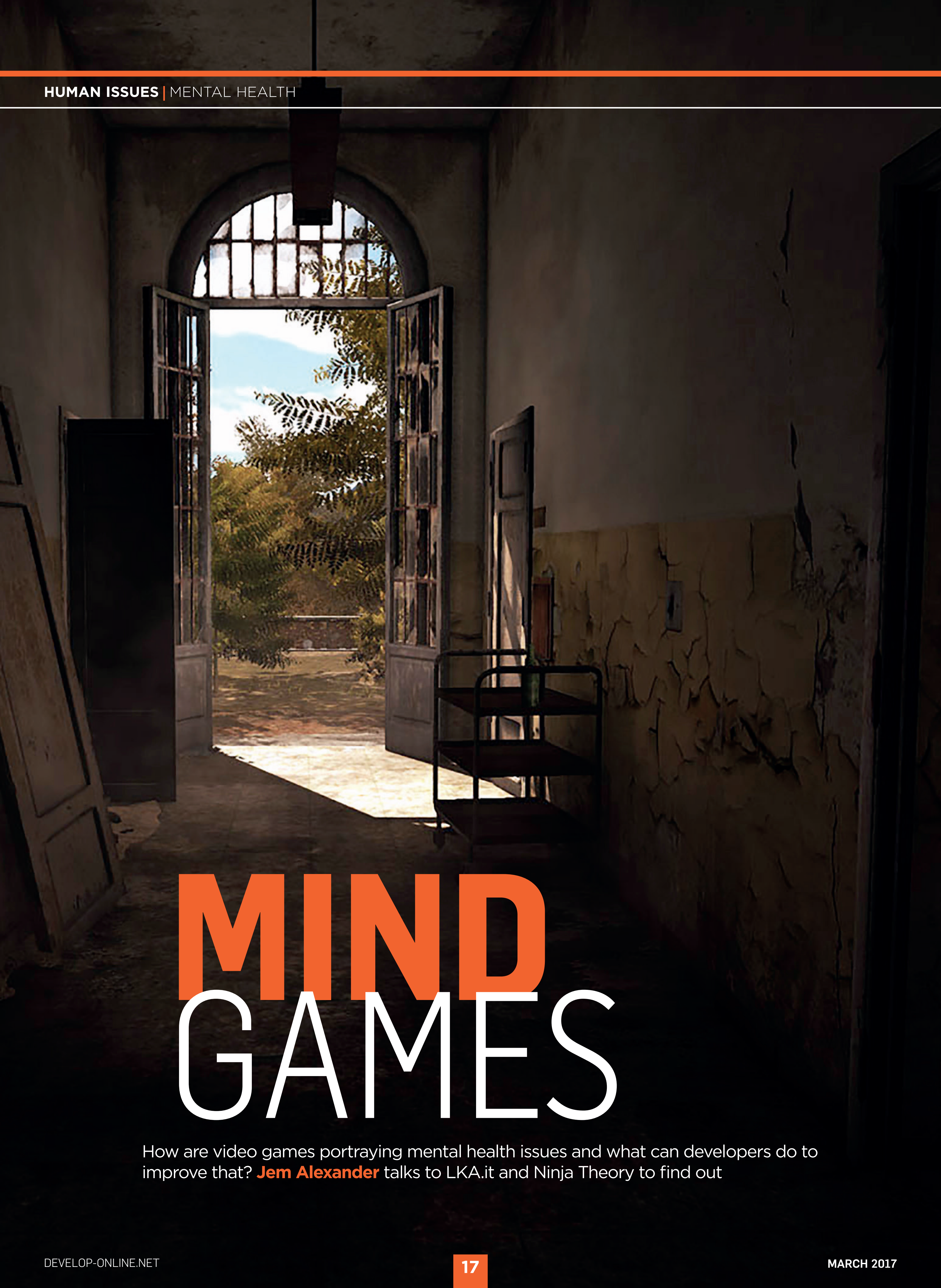


MIND GAMES

How are video games portraying mental health issues and what can developers do to improve that? **Jem Alexander** talks to LKA.it and Ninja Theory to find out

While video games mature as a medium, so too does their ability to reflect a broader range of human issues. Mental health is a growing global concern and, as such, is something the games industry is beginning to touch on in increasingly sensitive ways. Realistic depictions of mental health issues in games can not only inform the ignorant, but also help sufferers by, for example, removing stigma. Done badly, however, this representation can do more harm than good.

"Mental disease is often pictured in a misleading way in games and other media," says Luca Dalco, Creative Director at *The Town Of Light* developer LKA.it. "I think it is important that some games aim to be objective and try to let people become aware of this huge problem. Mental disease is, first of all, pain and suffering."

Because it's an issue that affects so many people, it's important to be accurate and realistic in the depictions of characters with mental health issues on screen. "I have studied the issue for a long time through personal research," says Dalco. "However, first-hand experience is the key element that allows the achievement of the necessary sensitivity to face the matter properly and to understand the pain that lies behind the mental disease. There isn't a book or a talk that can replace what you experience in your own skin, or through people who are close to you.

"Talking with mental health workers allows you to proceed with coherence, it is also a great source of inspiration and an excellent way to avoid addressing the topic in an unsuitable way that could result in being offensive, disrespectful and harmful."

Dominic Matthews, Product Development Ninja at Ninja Theory, agrees. The game he's working on, *Hellblade: Senua's Sacrifice*, has a protagonist who suffers from psychosis and thorough research was vital for an accurate portrayal of this in the game. "We've worked with people who have direct first-hand experience of psychosis, including people who experience voice-hearing, visions and unique beliefs," Matthews says. "Through the support of Wellcome Trust, a Global Charitable Foundation that supports entertainment projects that have the potential to engage people in scientific themes, we started to work with Professor Paul Fletcher, a psychiatrist and Professor of Health Neuroscience at the University of Cambridge.

"Paul has worked closely with us, giving us amazing insight from his experience as a psychiatrist and also his work as a leading expert in neuroscience. Through Paul we've had the opportunity to meet with a number of different groups of people who have experience of psychosis including some people at a local recovery college in Cambridge.

"It's good practice to research a subject area thoroughly before telling a story about it. This is especially true in the field of mental illness as it is an area fraught with stigma, misunderstanding and real human suffering. We've set out to depict our character's mental health difficulties in an honest fashion based on evidence and real people. Doing so without understanding the subject first would have been a mistake. Working with leading academics and those with lived-experience has directly resulted in enriching the *Hellblade* experience, whether it be the style of voices, the artistic nature of the visions or the puzzles that Senua has to solve."

> **Psychological problems are very common in modern society and the best way to fight them is to talk about them**
>
> *Luca Dalco, LKA.it*

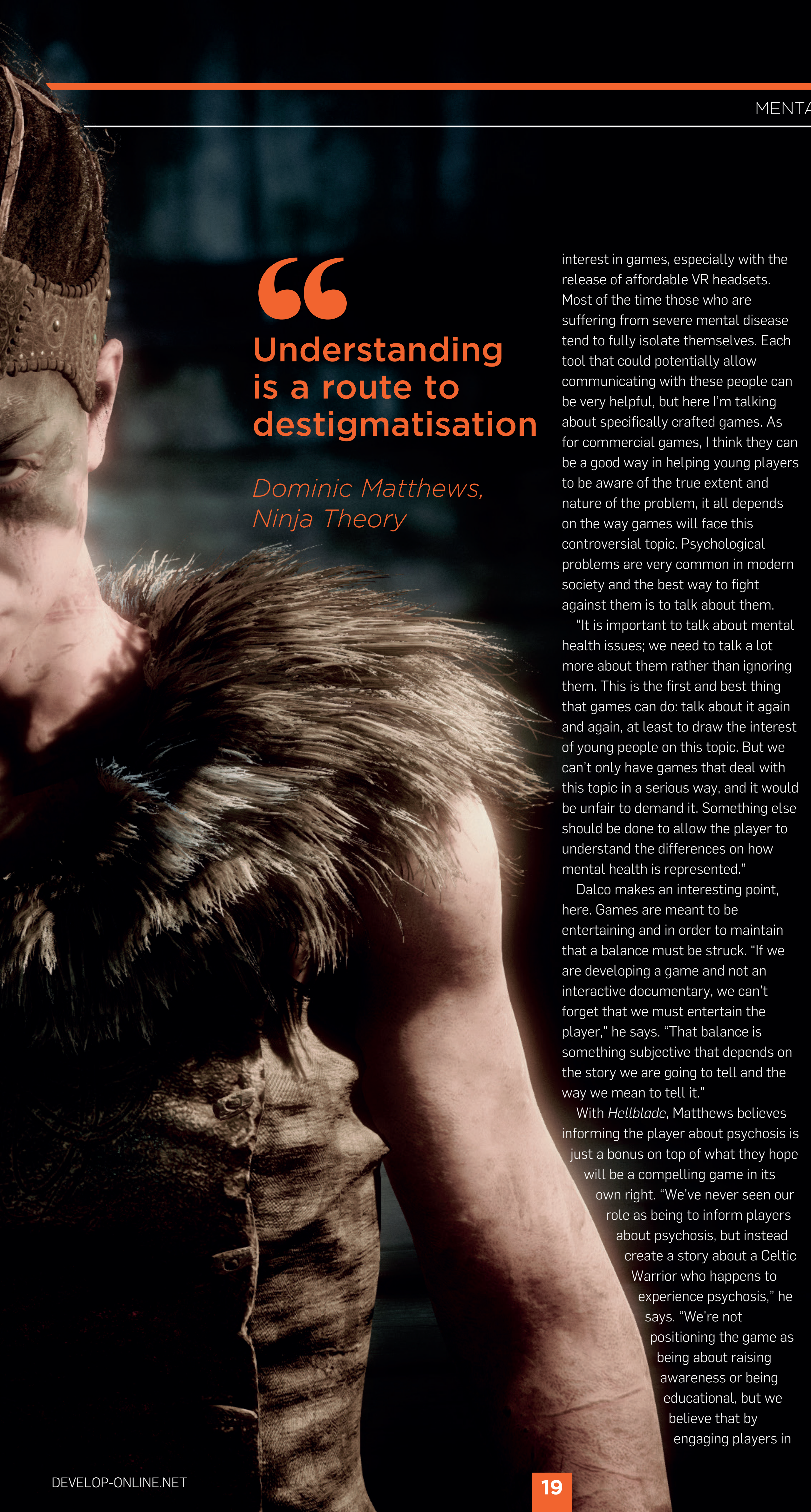
Accuracy of depicted symptoms are as important as an understanding of the history of the subject. *The Town Of Light* is set in an asylum in the 40s, at a time when mental health was far less understood than it is now. "In the past, if you were mad you were dangerous," says Dalco. "You were considered outrageous. Society got rid of these people and this shame through asylums, which weren't created to heal, but to contain. Patients were not organised based on their pathology, but on their behaviour: agitated, calm, dirty, etc.

"In the 40's a girl could have been imprisoned for their whole life in an asylum because she was considered outrageous, or because she was homosexual, or alcoholic. In the meantime, the 'normal' people were leading the world toward the most bloody war in the human history. We cannot and we should not forget this."

Ninja Theory's Matthews believes that games can be a great tool to educate players and help them empathise with sufferers of mental health disorders. "We don't embark on this specifically to raise awareness but rather to create a compelling story and character," he says. "However, video games do offer a unique opportunity to put players into the place of another character and allow them to see and feel the world through their eyes. By doing this *Hellblade* can first and foremost be a compelling piece of entertainment, but at the same time, it could go some way towards understanding a very difficult subject.

"Understanding is a route to destigmatisation. Video games can put players in the shoes of someone else to experience the world as they do. Movies can only give you a passive viewpoint, where you spectate the experiences of another. *Hellblade* is first and foremost a video game. A piece of entertainment that will take you on a journey. But by the end, you will have experienced a taste of what it could be like to experience psychosis in an aspirational hero. Everyone we have collaborated with, from the experts to the service users, have been very enthusiastic in their support for this very reason."

Luca Dalco agrees: "In my opinion, games could be powerful tools to communicate with people who suffer from problems related to mental health. Psychiatry shows a growing



> **Understanding is a route to destigmatisation**
>
> *Dominic Matthews, Ninja Theory*

interest in games, especially with the release of affordable VR headsets. Most of the time those who are suffering from severe mental disease tend to fully isolate themselves. Each tool that could potentially allow communicating with these people can be very helpful, but here I'm talking about specifically crafted games. As for commercial games, I think they can be a good way in helping young players to be aware of the true extent and nature of the problem, it all depends on the way games will face this controversial topic. Psychological problems are very common in modern society and the best way to fight against them is to talk about them.

"It is important to talk about mental health issues; we need to talk a lot more about them rather than ignoring them. This is the first and best thing that games can do: talk about it again and again, at least to draw the interest of young people on this topic. But we can't only have games that deal with this topic in a serious way, and it would be unfair to demand it. Something else should be done to allow the player to understand the differences on how mental health is represented."

Dalco makes an interesting point, here. Games are meant to be entertaining and in order to maintain that a balance must be struck. "If we are developing a game and not an interactive documentary, we can't forget that we must entertain the player," he says. "That balance is something subjective that depends on the story we are going to tell and the way we mean to tell it."

With *Hellblade*, Matthews believes informing the player about psychosis is just a bonus on top of what they hope will be a compelling game in its own right. "We've never seen our role as being to inform players about psychosis, but instead create a story about a Celtic Warrior who happens to experience psychosis," he says. "We're not positioning the game as being about raising awareness or being educational, but we believe that by engaging players in a character, a story and a world that is different to theirs, they can not only be entertained but may also gain further understanding. By virtue of presenting psychosis in a manner grounded in reality, we're exposing people to a fascinating subject matter that we hope offers something new."

Developers shouldn't shy away from tackling difficult issues. There's a strong possibility they could, if handled properly, make the game stronger. "It would be easy to ignore complex subjects in video games out of fear of offending or controversy," says Matthews. "But I believe that in itself is a pitfall. I believe that players want creative diversity in gaming and want games to treat difficult subjects in a mature fashion, so developers shouldn't write off dealing with particular themes if they are passionate about them.

"We've also found a lot of support in the mental health community for what we are attempting to do with *Hellblade*, we've engaged a lot of people in what we're doing, listened to them and explained what we're doing. Many might think that this will ultimately lead to a need to compromise, but we've found the opposite. Our engagement has enriched our creative to make our game that much more compelling."

Dalco's advice for developers is along much the same lines. Take the risk, but be sensitive and research thoroughly. "A very common risk is to exploit the stigma itself as a narrative expedient to create stories that share nothing with the real mental health issues," he says. "As an example, madness is often used to portray the worst possible murderers. This misleading way of depicting mental ill people is a possible way to stigmatise even worse.

"I'm personally convinced that in order to destroy the stigmatisation of mental diseases, the magic word is 'empathy'. It means understanding the deep suffering that leads the lives of people who suffer from mental diseases, but it is important to understand it is not rational, but rather emotional. Games fit this need very well and I hope growing numbers of developers will use them this way." ■

RACING FOR REALISM

Sean Cleaver spoke to Slightly Mad Studios' Andy Tudor about Project CARS 2, the improvements in their Livetrack technology and how the developer balances feedback.

Following the release of *Project CARS* in May 2015, its sequel was announced on Kickstarter just one month later. “We're still educating the public on how games get made with crowdfunding,” says Andy Tudor, creative director at Slightly Mad Studios. “Traditionally you would not even hear about the game until it's announced at E3 and you'd think ‘well they must have been working on this for a year and a half of so.’ With crowd funding, you have to announce it straight away so you can start work, so we can send our art guys off to foreign locations to take photos and stuff.”

Racing games have been plentiful in recent years. Rally is making a big comeback and realism is paramount, and that's not just photorealism. Slightly Mad's Livetrack 3.0 software looks to create the most realistic racing experience we've seen. “It's the sum of all its parts,” Tudor explains. “Livetrack 3.0 is the ongoing technology we've had from back in the GTR days. What it brings to the table is that the tracks feel alive now. So it's not just geometry where you turn up at a track and you drive on it.”

During an event at Bandai Namco's headquarters we are shown more on the evolution of this technology. Laser scanning of tracks is now accomplished by drone flyovers, which not only get great geometry readings but can also show you the entirety of the visible field of view. Seasonal changes in the surrounding landscape can be more meticulously observed too.

We're shown some screenshots with grids and lines that tracks the way wind moves across the Paddock Hill Bend at Brands Hatch, a track notorious for its variables, both designed and influenced by nature. All of this data is important for the aim of recreating realism.

“We look at what the competition are doing and they're adding in dynamic weather or time of day. But it's still a subset of all the tracks. So even the games that are coming out, even ones coming out this year. You can only go to a subset of those.”

Tudor is highlighting that many games can only have a race at a specific time of day and with only a specific pre-set length or what is often termed as ‘pre-baked’ situations and conditions. “It feels a bit odd to us that we're all in this realistic racing space yet they're doing things that aren't technically possible or chose not to. Whereas our ethos is to make it as accurate as possible.

“Now there are all sorts of surfaces that can be swept onto other surfaces. The grass can now absorb rain. We've added fluid dynamics, which now causes puddles to form. The wind is a factor now. We take track temperatures, ambient temperatures, height above sea level and now with the seasonal stuff we're adding in there as well, you'll be faster in the summer than you are in the winter just for the natural atmospheric conditions that there are there. All that stuff means hopefully it's going to be quite different every time you visit a track”

Project CARS was and will continue to be at the forefront of new technology too, being an early adopter of VR and having released Oculus Rift support for the full game. “We put the full game on there because we were so happy that you could sit in there for an hour or two and play the game without the motion sickness, without the issues you might have on other games. But you have to remember we were working with Oculus as well three years before it came out.

“I kickstarted it immediately and then made the terrible mistake of playing *Team Fortress 2* as my first game. Which is, looking back, ridiculous. Because in that you're jumping about, up is down, you're firing rockets – you're going everywhere. So of course you immediately feel quite motion sick.

“But over the time, over the three years, we found that we had to take stuff out of the game to make it more realistic. Stuff that we'd added in to

> **The racing genre has always been supportive of third party peripherals... and now we've got a helmet**
>
> *Andy Tudor, Slightly Mad Studios*

Project CARS 2 now features different surfaces including dirt and a full ice track

make you feel G-forces, make you feel motion in the cockpit. And actually the stuff that we added into the *Shift 2 Unleashed* game, we had to actually take out because in VR that stuff will make you throw up because it's motion of your head without motion of your real head. The racing genre has always been really, really supportive of third party peripherals. We've always had steering wheels, we've always had pedals and now we've got a helmet."

Being a crowdfunded game, you have to be careful of what you promise to the backer. There comes a point where the features you want or could put into a game would be more damaging than if they were separated and included in a new sequel. I asked Tudor where the line is for a developer when they make these decisions.

"There's three major criteria. The first is: Is it worthy of a sequel? If we added that would you think 'that feels like a freebie, giving it away in a patch?' So if it's something where you're like 'oh this is really engaging, this is really an awesome feature,' is it worthy of a sequel?

"The second is technically, does it involve rewriting a whole load of the game, like over 50 per cent? If so then technically it really can't go in the same game because you're changing so many underlying systems that it'd be kind of dangerous to do that.

"And the third thing is if a feature we want to add snowballs into other features. Go back in time to *Shift 2*, we wanted to add dynamic weather in there. We couldn't add that stuff because it meant that you had to have pit stops, then you had to have different tyres and all that sort of stuff.

"In *Project CARS 2* that extra thing is the Livetrack 3.0 stuff, the fluid dynamics, the seasonal changes, absolutely everything to do with the rendering and the physics. They're all tangled together in a big web. So you can't just add one of those into a patch because then you'll go 'something's missing.' All the other big features that support it aren't in there."

To create such realism is a balancing act for Slightly Mad Studios. "We've been making racing games for over 17 years now," Tudor says, "and they've all been pretty well acclaimed so we think we know what we're doing right and we know when things are wrong as well."

When making a game that requires this level of realism, you rely on reality, specifically racing drivers. For *Project CARS 2*, Slightly Mad has recruited seven of them, across many disciplines. "The team have got lots of expertise in that area and know how to do it on a core level. The community know what they want and they play other racing games as well. It's unfortunate but we often get a comparison like 'oh it doesn't feel like it plays in this game'. But we're not trying to make it compare to another game, we're trying to make it compare to reality.

"But really it's the drivers and getting us out on the track and experiencing it first hand that really solidifies things. An example of this is a year ago we sent our physics guys and our art guys and all major key players off to Sweden to an ice track, to get it as authentic as possible.

Then the drivers give us feedback on what it should feel like. And then we go out there and we drive it and we're like 'oh, we haven't got it quite right.' So even though we think we know what we're doing and we've got heritage in doing this kind of stuff, and even though the community are playing it and having a good time as well, when we actually go there and the drivers go out there and give us feedback like 'actually it's too slippery, it needs to have more grip.'

"That is extremely valuable feedback. So that acts as a large portion of the feedback that we put into the game." ■

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HEARD ABOUT

MASS EFFECT ANDROMEDA

John Broomhall talks with BioWare's Michael Kent & Jeremie Voillot

Andromeda's story is set in a new *Mass Effect* galaxy, focusing on characters facing the unknown. The game takes place 600 years in the future, when a set of 'arks' departed the Milky Way during the Reaper invasion. You play the role of 'Pathfinder' facing the challenges of finding a new home for humanity.

For Kent and Voillot, as well as maintaining *ME's* respected high audio standards, *Andromeda* presented the challenge of audio for an entire new galaxy of races, technology and locations. Kent: "The scope is unbelievable - hundreds of hours of content, tons of weapons and customization choices, numerous planets and hubs, hours of cinematics. Achieving consistently iconic audio throughout is challenging in itself.

"Regarding combat, we really admire our sister team at DICE, emulating their systems to achieve a similar quality whilst modifying them for 'sci-fi'. On narrative audio, Naughty Dog always inspires us - very polished, detailed experiences that connect you with characters. We aim for that - and I think we achieved it."

With *Andromeda*, the team took music interactivity to 'the next level' by developing a highly flexible system that facilitates a hybrid of traditional music scripting with a completely parametric and contextual procedural system. Voillot explains: "It detects you're in combat, aggregating the total 'CombatStress' and transitioning to the correct intensity music. On top are 'Combat Overlays' triggered and layered in sync reflecting e.g. a headshot kill. These mix perfectly with 'Ambient Overlays' when the action dissipates and you resume exploring. When the player enters conversation, we auto-switch to the 'Conversation Mood System', which uses the writing tools to pick a conversation 'Mood'– line-by-line if needed.

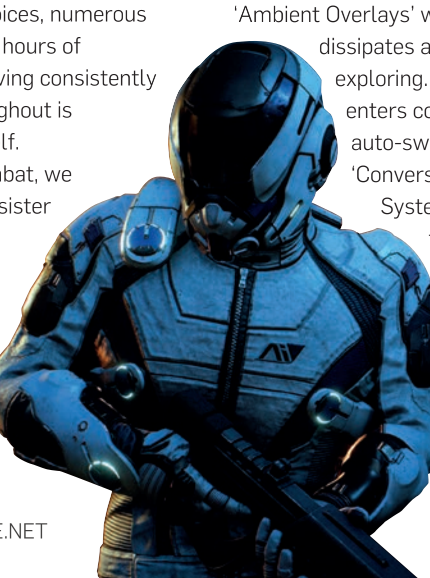
"The great thing is we got the writing team to help set this up as they knew the context best. So that's the procedural system – but at any point we can override it with the 'Scripted' system - more akin to what we've done previously."

Another smart development has been applying the in-game procedural Foley system (vital given the game's scope) to the 500+ cinematics. "Our system uses physics-generated events and parameters to appropriately play back loops and one-shots to emulate movement and footfalls," says Kent."Foley is THE thing that grounds these characters in the world, so we take it very seriously. Using the system for cinematics has essentially removed our dependency on the Animation team, meaning they can continue to iterate without blowing out our stuff. Everyone gets along more now."

"Our planets are massive. Implementing sound by hand is impossible," Voillot adds. "The resulting dependency on art and design unrealistic. Instead we have our cool Procedural Locator Object Placement System, which allows flagging of specific objects in the game (i.e. a flag, fire) and association of a sound with it. These assignments live in a single PLOPS asset, and we can easily populate a whole level with correct sounds at correct locations – thereafter level designers can move stuff around and we can simply update our sounds to match. We can also pass in parameters to playing sounds, and control the playback of specific sound groups. We also sample the local WindSpeed at the location of the sound and pass that value in to modulate playback.

"It sounds great when the wind picks up and a tree, flag and fire all react together. It creates a very detailed 'bubble' around the player which constantly updates as they traverse the world.

The key lesson learned is trust, says Kent. "We simply had to delegate to and trust our incredibly talented team throughout. Andromeda was simply too large and complicated for any one person to have complete ownership. The end result is astonishing, and we couldn't be prouder." ■



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MAKING DREAMS REALITY

Sony veteran Dave Ranyard has moved on to found a new team, Dream Reality Interactive. **Will Freeman** finds an outfit convinced there's new gameplay conventions to be found in VR

Back at the tail end of a 17 years stint working at Sony, Dave Ranyard and his team were experimenting with something then known as Project Morpheus. The blocky, metal-clad headset would become PlayStation VR, establishing him as a leading voice in the virtual reality community.

Now Ranyard has established his own team, Dream Reality Interactive, in the same city. Unsurprisingly, it is VR that is to be the outfit's specialty.

For six months, a fledgling band of developers has quietly been fleshing out a range of VR prototypes.

The journey of a veteran of a large outfit breaking away to go it alone with a new team is almost a defining story of the modern games industry, but Ranyard has long been compelled to follow a self-sufficient path. From running a shop at 17 to his role in the band Supercharger, which thrived in the 90s UK big beat scene, Ranyard's endeavours have often placed him in small, spirited operations.

"Thinking on your feet, independence and even the stresses of running your own thing has always been really attractive to me. Being in the band really gave me a taste for all that.

"The agility of a smaller studio appealed to me," the founder muses, pondering why now was the right time. "Then there's the fact that VR is nascent; that was a big part of doing this. That's exciting, you know. And that made me think about multiplatform. It's nice being aligned with a platform, but there are lots of different things happening out there today that we want to be involved in.

"I've just been writing a talk for Goldsmiths [University]. An MBA student suggested this to me, actually. If you look at early cars, they were all different shapes and sizes and so on. If you look at that, there's parallels you can draw with VR today."

> **"I don't know how far we're pushing that envelope, but we're trying to do things differently**
> *Dave Ranyard*

DEFINITELY MAYBE

Dream Reality isn't rushing to place its flag in any one gaming form. "Maybe we'll get to do something with eye-tracking," Ranyard suggests. "Maybe we'll do something with mobile VR. We're afforded that opportunity by being able to be multiplatform."

That approach has afforded Ranyard's band of creatives a chance to focus their efforts on what can be done to debut new mechanics in the VR space, freeing them from the pressure of serving a fixed game idea.

"We are trying a few different avenues. There's an arcadey game we're working on that does have some shooting. There's another game which doesn't at all; it has very minimal, simple mechanics. And then we're very interested with interacting with characters within VR, and what gameplay that can bring about."

There's no pretence within Dream Reality that a grand, complete idea is ready and waiting to be realised in code, or even that the studio has a meticulous plan for the future. Rather, Ranyard and his colleagues are casting an eye across the emerging opportunities VR presents, exploring prototypes, and considering where

there is space to make distinct titles that help forge the emerging rulebook of virtual reality game design.

"I'm sure we'll hone in and narrow in on something over the next year or two," says Ranyard. "But for now we're very open to what the best way to go is."

THREE'S COMPANY

The core focus is guided by three founding pillars Ranyard has set out. Firstly, his outfit is devoted to building 'believable worlds'. Believability is particularly important and complicated for VR, and as such a principal concern for the team.

The next pillar is 'pursuing natural interactions', though Ranyard's vision there goes far beyond the likes of hand gesture control. A 'never say never' attitude does permeate the tone at Dream Reality, and as quickly as talk turns to a gamepad's lack of suitability for VR, Ranyard points out nothing should be discounted if your devotion is to quality of interaction.

But it is AI that he feels could bring a revolutionary form of meaningful natural interaction. "In terms of our looking at interacting, and interacting with characters, I'm definitely drawing back on my PHD in AI, which I did 20 years ago. My joke is that it's been useless for 19 years," Ranyard says with a laugh.

"But I do believe there will be a big convergence of VR/AR and AI. AI is a more natural form of computer interaction. It's less about button pressing and stuff. I think the learning aspect of that will be interesting in VR. Perhaps in five years we will see more natural interaction through something like that."

The third and final pillar is 'shared experiences'. Ranyard happily admits they have a way to go down that path, but he is convinced it will be vital to the studio's future.

INTERACTION FIRST

For now, Dream Reality is largely investigating mechanics over themes, largely resisting the distraction of building narratives, aesthetic style guides and swathes of assets.

"What we've tried to do is work on prototypes first, to get the mechanics themselves as good as possible," Ranyard clarifies. "We're then working out how to dress those experiences once the mechanics are established. That's rather than deciding on the setting and theme, and then working the mechanics into that.

"I don't know how far we're pushing that envelope," he adds. "But we're trying to do things differently, as much as we can."

That's not to say Dream Reality is completely ignoring the benefits of tentative world building. Si Spenser, a comic writer on titles like *Hellblazer*, also happens to be a former band mate of Ranyards. As such, Spenser – also a stalwart of *2000AD*'s output – has already contributed a wealth of background writing to Dream Reality.

"With Si, we've fed him some ideas and stuff, and he's written us loads of back story, and it will probably never be printed," Ranyard reveals. "But we can use it. What I've discovered is how much that process helps us. I've done it in the past, where you almost build up that universe as a database of information. As you put something together it might only reference a few little bits from that. But because there's a natural consistency and credibility, it helps us with those believable worlds, and guide us."

Motivated to run a studio where he knew everybody by name – a testing task within Sony – Ranyard has currently built a team of eight, including himself. Expansion isn't off the cards, but for now Dream Reality is keeping it understated.

"Of course I've gone for talent, but it's also about people getting on," says Ranyard. "One of my things is that great teams make great games. I do obviously want to hire the most skilled and talented people, but it's also so important that they work as a unit. I believe nobody is perfect, so within a group, the best thing is to know what you're good at, and know what you're not good at, and not make it an issue if you're not good at stuff. My art is pretty awful, but that's OK. We've got Isabelle," Ranyard adds, with an arm gesture to his artist. "She is really good at that."

The atmosphere within the studio walls is certainly playful, and even self-deprecating at times. But that jovial spirit doesn't mean Dream Reality aren't taking their work very seriously. Get any team member talking about a prototype, or how an emerging technology presents an opportunity for new gameplay conventions, and it's clear this is a place devoted to its potential.

Exactly what that work will be, however, remains somewhat shrouded in mystery. A bounty of output is currently being kept from view, but much of what Dream Reality Interactive will become is yet to be set in stone. And that's the way Ranyard likes it. ■

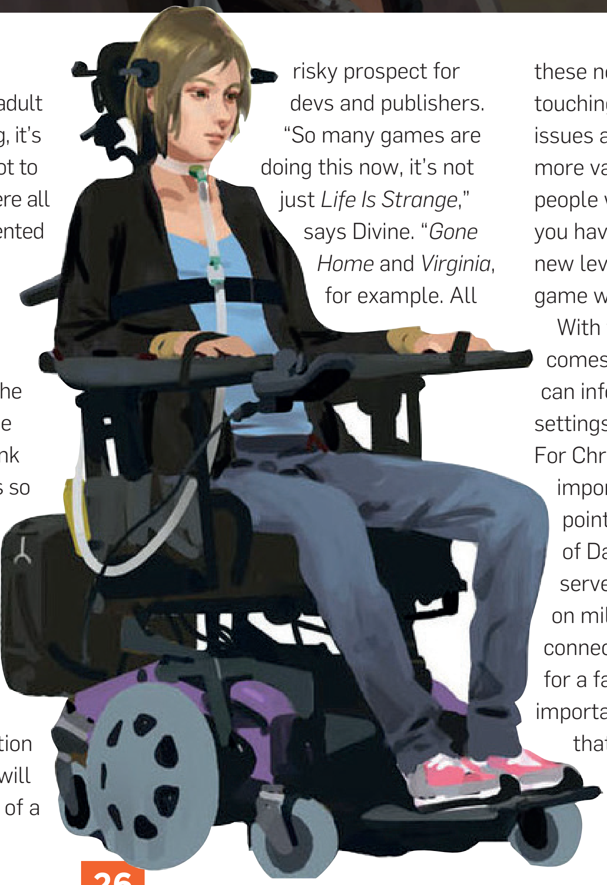
REPRESENT

Games are becoming more diverse, but there's always more work to be done. **Jem Alexander** speaks to Life Is Strange writer Christian Divine about representation in games.

Diverse representation in games is incredibly important. Thankfully the games industry is at the point now where the inclusion of different races, genders, sexualities and cultures is becoming more and more commonplace. One title which excelled at this was *Life Is Strange* which, as well as having a wide variety of characters, touched on some issues that you wouldn't necessarily expect from a game.

"I've been writing for games since the 90s," says *Life Is Strange*'s writer, Christian Divine. "So I've seen the arc of game development history turn away from a very cool point of view, but also very limited. It was a male-centric point of view, but I knew things would change because gaming is a very young medium. We're at a point where the film industry was, say in the 60s, when all production code changed and you could have nudity and violence and cursing and all of these more adult issues. I think that with gaming, it's like any other kind of art, it's got to develop and get to a point where all people that need to be represented can start feeling like gaming reflects their point of view.

"It's important to show these different points of view and to make people feel like the games are representing a wide swathe of the public, and I think that's why *Life Is Strange* was so successful. What was so pleasing and interesting is how people around the world, across race and gender and culture, seemed to embrace the game and feel a connection."



Hopefully the warm reception that *Life Is Strange* received will make diversity in games less of a risky prospect for devs and publishers. "So many games are doing this now, it's not just *Life Is Strange*," says Divine. "*Gone Home* and *Virginia*, for example. All these new games coming out are now touching upon all of these different issues and I expect there to be even more variety based on how many more people will be developing games. Now you have a whole new area, a whole new level of people entering the game world."

With this variety of developers comes a wealth of experience which can inform stories, characters and settings for games moving forward. For Christian Divine, this came in some important forms. "I brought my own point of view to the game in terms of David Madsen," he says. "My dad served in the military and I grew up on military bases, so I have a direct connection to having a military man for a father. One thing that was important to me was to make sure that David wasn't the typical cliché, angry PTSD veteran.

"I'm partially disabled so it

was also very important to me to represent disability in a way that's not condescending. I can only speak for myself, I can't go into everybody's point of view of how they are as a disabled person, but certainly when it came to Chloe's representation in the wheelchair, we wanted to make sure that we were doing justice to people who have these social and physical obstacles and present them in a way that hopefully makes the player relate to them if they're familiar. And, if they're not, maybe give them an insight as to the challenges that people have to face. The things that we don't think about. Just the idea of going to the bathroom, or going to the door or going to a cafe."

As Divine says, even within a minority group, one person's experience may be completely different to another's. It's impossible to get across everyone's story from a single viewpoint, but that's why it's important to have a variety of diverse creators involved in the industry. So people are able to tell their own stories. It's so easy to underestimate the impact of seeing yourself reflected in your favourite games as a member of a minority group.

But even though Christian Divine doesn't need a wheelchair to walk, his own disability makes him cognisant to the struggles of those who do. "In terms of Chloe's disability, I was born with one hand," he explains. "It's not being in a wheelchair, so I have a totally different frame of reference. I know people in wheelchairs, to the degree that I can understand what obstacles they go through. I'm empathetic. As a writer I think you need to be empathetic."

This empathy as a writer is really the most important thing when it comes to drawing your characters as real people, in a way that will get players to react to them with their own sympathy and empathy. People all over the world fell in love with Max and Chloe and that's a testament to Divine's ability to create loveable, human characters.

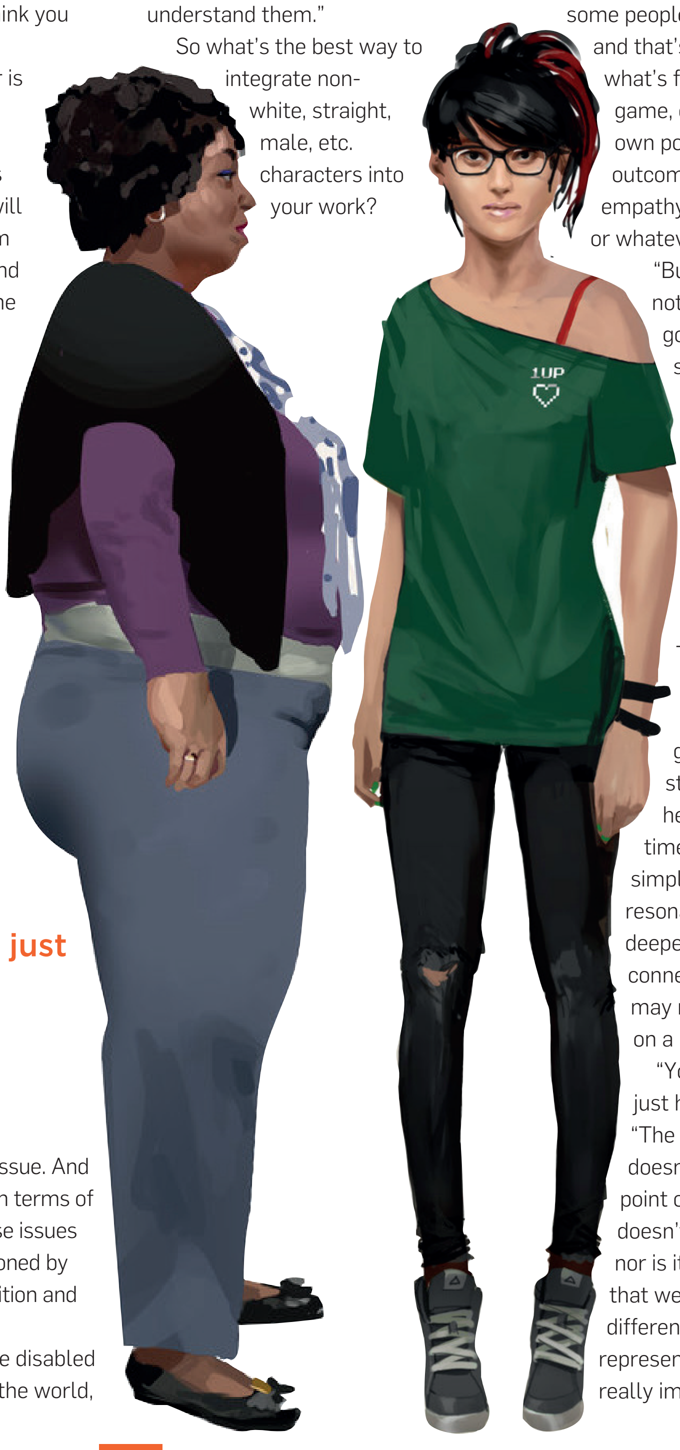
"You put yourself in the point of view: 'okay, if I was in a wheelchair and I had to use a restroom, what does that involve?' That's not just getting up and walking into another room, that's a whole other issue. And so you have to riff off that. In terms of Chloe it's talking about these issues and how Chloe feels abandoned by people because of her condition and she's treated differently.

> **"**
>
> **You have to represent, you just have to**
>
> *Christian Divine, Writer*

"I feel like people who are disabled are the biggest minority in the world, but it's a minority that's not bound by culture or gender or race or anything. There's fewer people who speak out for the disabled, because it doesn't just represent one point of view. It's not a cultural point of view, it's not a gender point of view. I was able to bring something of that to the character in terms of how I have seen people with disabilities treated and how I have been treated.

"It's not just disabled people, if you're a person of colour, if you're a woman, if you're trans, anything. If you're different from the group, you're going to be treated differently. And I think we all understand in the end, people all around the world, even if they don't share these obstacles, they understand them."

So what's the best way to integrate non-white, straight, male, etc. characters into your work?



In short, do it for a reason and with sensitivity.

"Don't be exploitive. Don't try to go for the easy emotion. Don't try to paint Chloe as 'woe is me, I'm in a wheelchair', because that's not necessarily how people in these situations perceive themselves. I know dynamic individuals who live really amazing lives. But they're also people. They're just people. I can be disabled and still be an asshole.

"As a writer you want to present all aspects of that personality. You don't want people to be heroic only, or only bad. Just make them human.

"Even if you don't like David Madsen at first, I love the fact that many players grow to really love him. And some people don't love him at all and that's totally valid too. That's what's fascinating about the game, everybody brings their own point of view and the outcome is based on their own empathy or sympathy or anger, or whatever the emotion.

"But the main thing is just not to be exploitive. Not to go for the very simple solution to complex realities and to push yourself as a writer, to go beyond what would be the obvious response or obvious scenario."

As for when these characters and themes should be included? There's never a wrong time. People will see themselves in your games and will be stronger for it. It could help them through a tough time of self-realisation, or simply be a character who resonates with them on a deeper level. Either way, you're connecting with people who may not experience inclusion on a regular basis.

"You have to represent, you just have to," Divine states. "The world is a big place and it doesn't just represent one point of view. *Life Is Strange* doesn't have all the answers, nor is it intended to, but the fact that we were able to present different points of view, different representations, cultures, it's really important in games." ■

A WAR ON CONFLICT

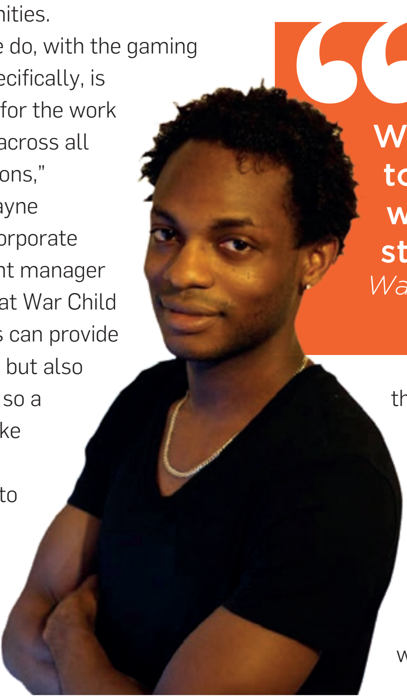
Do violent games have a role to play in promoting peace? **Will Freeman** speaks to charity War Child about what they think

Credit: War Child Holland

Video games have a troubled relationship with war. As a subject matter, conflict has brought us cultural behemoths like *Call of Duty*, and all the money and employment such titles have made. In its early days, war brought developers and players a familiar subject matter around which to build some of the medium's founding mechanics. Yet games have never quite shaken an association with celebrating – and even stimulating – real world violence. Military-themed games have always struggled to be seen as 'anti-war', while some of the most violent films have succeeded in that regard.

All of which makes it rather curious that War Child – a non-government organisation that addresses the impact of conflict on children – has embraced video games as a means to deliver its message. The charity specialises in three areas; child protection, education and livelihoods, the latter referring to establishing sustainable opportunities for communities.

"What we do, with the gaming industry specifically, is raise funds for the work that we do across all our the regions," explains Wayne Emanuel, corporate development manager for gaming at War Child UK. "Games can provide fundraising, but also awareness, so a campaign like Armistice, allowed us to do both."



> "We're looking to collaborate with more studios for 2017
> *Wayne Emanuel*

A GAMING ARMISTICE

The Armistice campaign, launched in November 2016, uses 'mechanisms and activations' within games to inspire donations and share War Child's message of educating and protecting children living in the horrific reality of modern combat zones.

"The idea of Armistice was to reach out to the gaming industry – and more specifically games with violence at their core. The idea was to pacify those games for a short period of time," Emanuel says.

"Developers were really keen to get on board, which was fantastic."

This resulted in deals with *World of Tanks* creator Wargaming.net and Blackmail, which developed *Verdun*, as well as iNK Stories and Positech Games, designers of *1979 Revolution: Black Friday* and *Democracy 3* respectively.

iNK and Positech donated game revenues, while drawing attention to their existing themes to engage users to think about parallels between gameplay and conflict in reality.

WWI shooter *Verdun* went a stage further, recreating the famous Christmas truce of the First World War's trenches. For a limited time, *Verdun*'s shooter gameplay was replaced with the ability to play football, exchange Christmas cards, and indulge in snowball fights.

The initiative included Twitch challenges, asking streamers to beat games through pacifism when conflict is the default. War Child has seen a hugely positive reaction to the roll out of Armistice, and want more involvement from games makers.

A CALL TO ARMS

"We're looking to collaborate with more studios for 2017, and make Armistice a bigger thing," Emanuel reveals. "We want to get more studios on board, and use that to engage more people. Raising awareness and donations for the work we do is really important.

"With a War Child project in Jordan, we actually using technology and games to educate children," Emanuel reveals. "Using tablets and e-learning there, we're teaching children basic literacy and numeracy through games. If you've been displaced, you often won't have access to teachers and resources, and these children aren't going to school."

War Child is ambitious, hoping to reach 37,000 children through game-based education over three years. And what's more, where appropriate War Child is trying to employ local Jordanian devs to produce content.

War Child is keen to work on an individual basis with game studios interested in tweaking their games to support the efforts of the NGO.

"We're really open to ideas from studios," Emanuel asserts. "What they feel would work for them and also their audience is really important. And we continue to look at ways to work with streamers and how they can help fundraise for what we do."

Interested developers are urged to make contact with War Child. ■

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NEW HORIZONS

The art of Horizon Zero Dawn is a departure from Guerrilla Games' previous games. **Jem Alexander** finds out how the creation of the Decima engine and expansion of the art team fed into that

The development of *Horizon Zero Dawn* and the Decima engine on which it runs took place simultaneously; Guerrilla Games' colourful post-post-apocalyptic adventure takes advantage of tech built specifically to overcome challenges which the *Killzone* engine would struggle with. The studio's dark, gritty shooters were contained, linear experiences, but *Horizon* was always intended to take place in a huge open world.

"At an early stage, we identified the challenges we would meet when creating an open world game, and made a roadmap of tools and tech to ensure that Decima would allow us to fulfill our creative vision," says Guerrilla Games' art director Jan-Bart van Beek. "Decima itself is an extension of the engine used for *Killzone*, so many of the asset creation and rendering techniques from *Killzone: Shadow Fall* were leveraged and improved upon. The more substantial changes to the engine and content creation methods came from the need to create, populate, stream, and render a world many times larger than we were traditionally accustomed to building.

"Decima had to support everything from macro scale landscapes, to large cities and remote villages, to herds of Machines and travelling merchant characters, to individual blades of grass, and everything in-between."

A mixture of procedural and hand crafted design allows the team to create authentic biome-style areas, complete with systems, by utilising what Guerrilla calls World Data. "Decima has allowed us to elegantly construct various natural settings via the development of World Data," says van Beek. "This is a standardized stack of data and rulesets that are customizable for the various natural settings (or ecotopes) throughout the game world. At the flick of a switch we can turn a dense, palm-filled, and humid jungle to a sparse, dry, cacti-filled desert environment. This global system also allows us to simultaneously place pickups and collectibles, wildlife, and even spawn ambient sound effects and environment-specific dialogue.

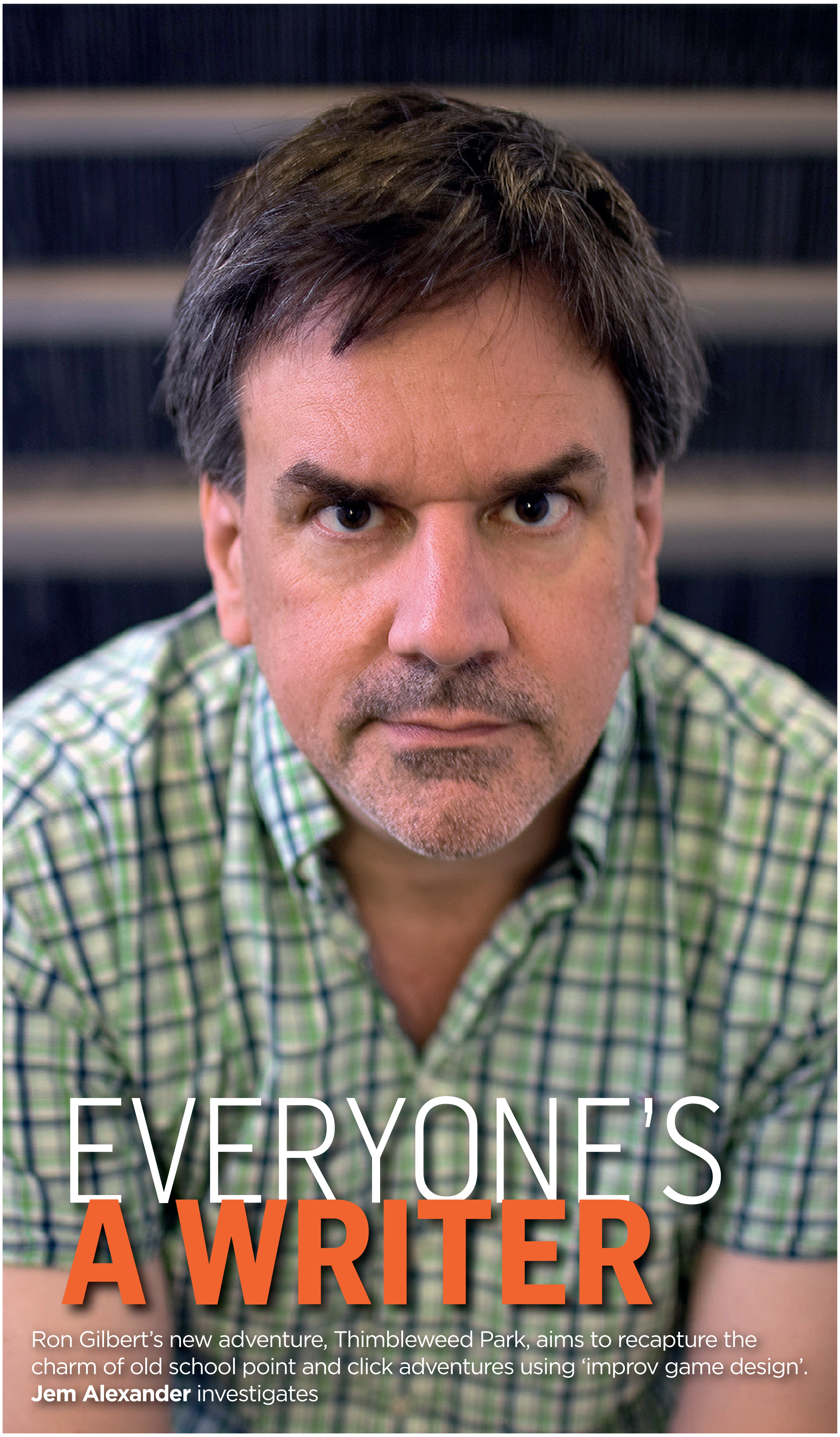
> **At the flick of a switch we can turn a dense, palm-filled, and humid jungle to a sparse, dry, cacti-filled desert environment**
>
> *Jan-Bart van Beek*

"We then integrate hand-crafted elements into the broader gamescape to create the unique player experiences required to tell Aloy's journey. This portion of the effort is most similar to the asset creation we had grown accustomed to while working on the *Killzone* titles, but sat neatly within the more generative open world elements. Ultimately we end up with a layered tapestry of interrelated assets that can be experienced from different angles and at different times."

As games continue to become more advanced, the need for specialised skills increases hugely. Art teams are no longer groups of artists who have similar skills, but with differing styles. "It's getting ever more complicated with every generation of hardware," says van Beek. "While 20 years ago a development studio might have an art team of ten people who were all very generalist in their skillsets, the constant push towards larger game-worlds, higher levels of realism, higher resolutions, levels of interactivity and dynamism, etc. has created the need to have larger art teams with highly, highly specialized people.

"Just on making characters there is a structure of maybe 10 different roles, from art directors, concept artists, modelers, texture artists, shader artists, animators, technical animators, facial animators, etc. And that's just for characters. For machines you'd see that entire structure duplicated with the different artists that specialize their role towards doing all that work for machines. Normally, our environment artists tend to be a bit more generalist, but as *Horizon* was such a new thing, with lots of new things to learn, we also decided to allow these guys to specialize more. So we now have separate artists for landscapes, settlements, trees, rocks, etc.

"All in all the art team of *Horizon* is probably around 100 people, if we count just the artists who are Guerrilla staff. Next to that, there are probably another 100 or so working for us as freelancers or at various different vendors around the world." ■



EVERYONE'S A WRITER

Ron Gilbert's new adventure, Thimbleweed Park, aims to recapture the charm of old school point and click adventures using 'improv game design'. **Jem Alexander** investigates

We are witnessing an adventure game renaissance. Recent years have seen the genre make a big return, after what felt like decades of point-and-clicks falling out of vogue. With games like *Firewatch* and *Gone Home*, adventure games are looking quite different to the late 20th century Lucasarts and Sierra classics, but with *Thimbleweed Park* Ron Gilbert is hoping to bring some of that original magic back to the modern era.

"Gary Winnick (he and I did *Maniac Mansion* together) and I were having lunch and talking about the charm of those old adventure games that we did at Lucasfilm," Gilbert says. "There was a certain feeling that those old point-and-click games had. Gary and I were talking about what that was, and I don't think either of us knew. It was just a weird feeling. So we decided to do another one and figure out what that charm is.

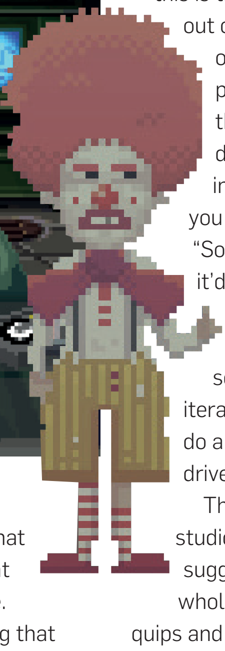
"Adventure games today, I think they're more what you'd call 'narrative games' than they are puzzle solving games. There's probably five puzzles to solve in *Firewatch*, but it is a narrative game and I think that's one of the neat things about point and click adventures, at least for me as a designer. It was about telling really interesting stories, and I think that has had a resurgence with people who really enjoy good narrative in games."

So what makes an adventure game an adventure game? What links games like *Gone Home* and *Monkey Island*? "It's a big fat grey line, right? To me there's got to be narrative," Gilbert says. "There's got to be exploring some kind of world. I think those things are important. There's got to be some kind of activity that you need to be doing. Some little thing that you're having to work out. It doesn't have to be a puzzle in the classic sense of a puzzle.

"*Gone Home* is a great example of that. It's an environment, it's a narrative, but you're kind of more puzzling your way through what's going on in this house, so it's a different kind of puzzle. But it's something that gets those gears turning inside your head as you're trying to figure your way through it."

In order to recapture the feeling of those original point-and-click adventures, Gilbert and Winnick are using the same development process

BLOODTRON 3000
FINGERTRON 3000
FACETRON 3000
Open
Close
Give
Pick up
Look at
Talk to
Push
Pull
Use



they used back in the late 80s and beyond. In many ways, Gilbert believes that it is *how* they made those games, not *what* they made, that gave them that special charm.

"I think what was really unique about our process back at Lucasfilm was it was very collaborative," explains Gilbert. "It was almost improv game development. We didn't write design documents. The major four or five beats of the story is all I wrote down. Everything else was just building it on the fly. You could do a lot of rapid development and prototyping."

Unfortunately, this level of constant addition and iteration falls apart when your development team reaches a certain size. "If you're working on *Call of Duty* or *Mass Effect*, or any of those big games with hundreds of people working on them... If you have a funny idea at lunch, there's four associate producers it has to get past before the producer adds it to the schedule and the artists have to be notified of your funny idea. It's just not possible to do that kind of stuff.

"I think after about five or seven people, you can't do that. As soon as you start having to communicate that stuff in any kind of an official capacity, I think you've lost it. The team on *Thimbleweed Park*, we're spread out all over the world. Our main animator is from Spain and our leader tester is here in London. The United States, Canada, the Czech Republic. But we're all on Slack together. So if somebody has a fun idea, they just type it in on Slack. 'Oooh, wouldn't it be cool if we did this!' and everybody gets to comment on it and, if it sounds like a good idea, we'll put it in. But it's a small enough team that we don't need formal communication."

Quick implementation of features can lead to fun ideas that can strike at any moment. Whether inspired by other team members, art assets, or even Twitter fans.

"The specks of dust idea wasn't planned," Gilbert says. "There was no 'specks of dust' design document. That was just an idea that somebody on Twitter had. Somebody asked 'oh, can I get an object in the game? I missed the Kickstarter' and I said 'no, I'm sorry, it's way too late'. He goes 'how about a speck of dust? Can you just put a speck of dust in the game for me?' and I thought 'okay, I can do that!'. So I put a speck of dust in the game. It took me about a half hour. Then I thought 'wouldn't it be cool if you went around collecting these specks of dust?'. A few hours later I had this whole speck of dust system sitting in the game. That was just a weird idea that came from Twitter."

> **"Every puzzle should tell me something about the story, the characters, or the world**
>
> *Ron Gilbert*

This collaborative design process essentially means that everyone on the development team is a writer on the game. This is a key part of delivering that original Lucasarts charm. "Myself and Lauren, we did the bulk of the writing for the game," explains Gilbert. "But then people like Jen, who did the programming for the hotel, and David Fox, who did a whole lot of the game programming... It's not like I would come and deliver them a script. If they're creating an object in the hotel, they have to think 'what are all the Look Ats'? Or what happens if you open it? We need some funny response. So there's a lot of writing that they do as the programmers, and that's all done on the fly. A lot of weird, funny stuff comes from that."

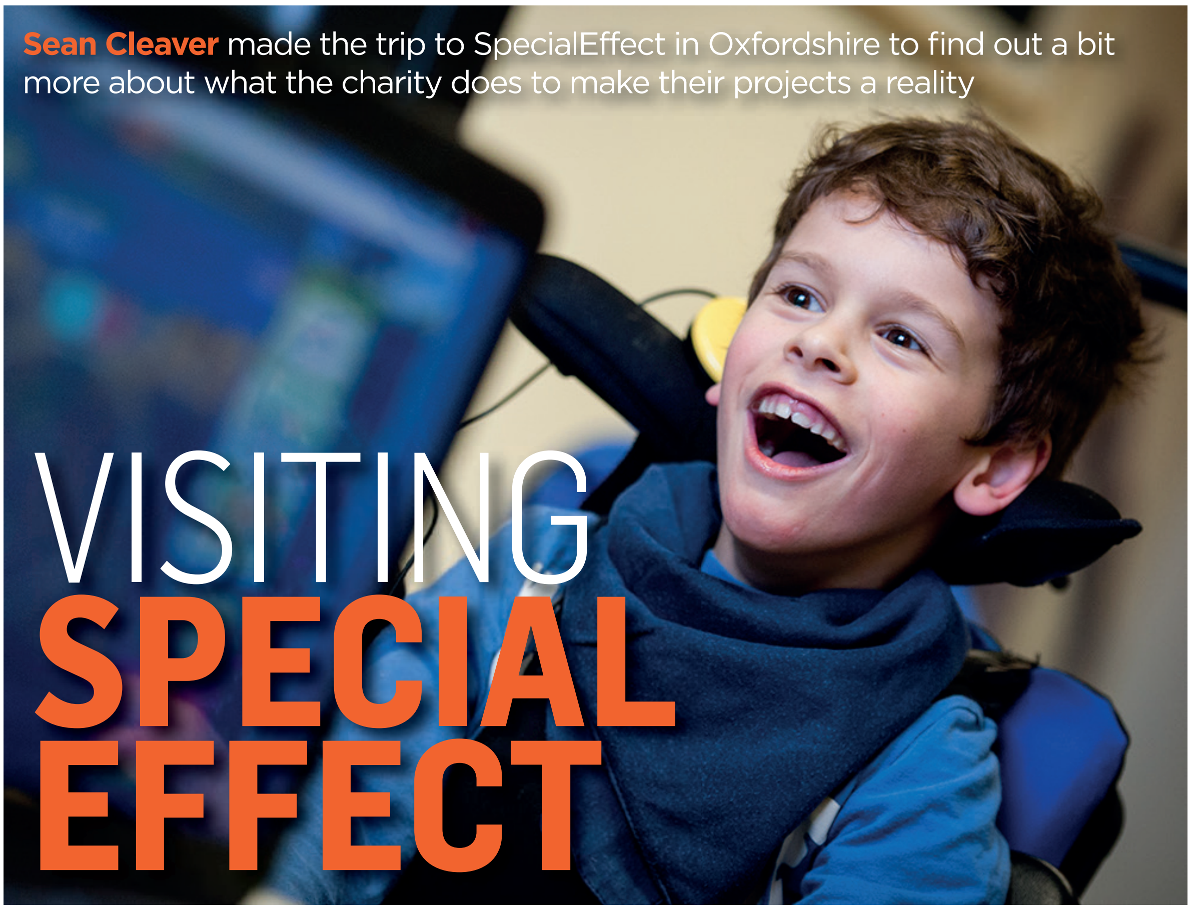
Gilbert believes this is part of what gave those early adventure games that special charm, and it does the same for *Thimbleweed Park*. "It's all of the stuff that you can do in the game that has nothing to do with the actual game," he says. "It's all the weird things. Decisions we can make as we are playing the game and we say 'you know what, this really needs something here' and then boom, we just go do it."

This fits perfectly with Gilbert's writing process for dialogue, where a foundation for the script is laid down and then built on as-and-when people think of good/funny additions. "I know that we're going to go into dialogue with this information and we need to come out of this dialogue with this new information," he explains. "But that's a very small part of that dialogue. That's maybe two dialogue choices. What I'll do is a skeleton dialogue. We get in, this is the piece of information that you want to ask, and this is the response and then we're out of it. Then you'll have a lot of other choices where I'll just put 'temp, temp, temp'. So the first time you play the dialogue, you see the important dialogue and then you see a bunch of temp options. "So as I'm playing it I'll go 'oh, it'd be really funny to ask her about this' and then I'll replace the temp with something else. I am a very iterative designer, I could never do a design document, it would drive me crazy."

This means that anyone in the studio can then make dialogue suggestions as they playtest. A whole writing team adding their quips and flourishes as they go. Just like during Gilbert's days at LucasFilm.

For designers thinking about making your own point and click adventure game, Gilbert has some great advice: "When it comes to puzzles, every puzzle in an adventure game should tell me something about the story. It should tell me something about the characters, or it should tell me something about the world. If the puzzle does not tell me one of those things, then the puzzle needs to be redesigned or scrapped. To me, the narrative is what gives the puzzles purpose. And the puzzles are the things that push the narrative forward.

"I will give the same advice that I would give a writer. Just do it. If you want to learn to be a writer, just start writing. With the wonderful tools that we have available today with Unity and Adventure Game Studio, and there's five or six other adventure game tools out there. Just start doing it. Grab a tool and wire up a room. Start with a single room and create three puzzles in it. Then create a puzzle to get out to the next room you create. Just do that, slowly stepping your way in. I do sometimes talk to people who say 'I'm starting my first adventure game' and they tell me all about it and I'm like 'my god, it's your first adventure game and you've got 37 different rooms and five different narratives going on'. No no no, start simple. Start simple and build up." ■



Sean Cleaver made the trip to SpecialEffect in Oxfordshire to find out a bit more about what the charity does to make their projects a reality

VISITING SPECIAL EFFECT

Credit: Images Curtosey of Special Effect

One moment I'm being driven up the long driveway of the Cornbury Park Estate and a short time later I'm playing *DiRT 3* using only my eyes. I'm crashing because I'm so used to looking to the apex of a corner that I'm turning too early but, before long, I'm playing a game with absolute zero body movement.

SpecialEffect is a recognised name in the gaming industry now. Their work as a charity enabling people with physical disabilities to play games is astounding. I, however, wanted to know a bit more behind the scenes: how these solutions are found and what games work well with the technologies. But first I wanted to know why I'm out in Charlbury at a converted stately home?

"It's for the disabled access," SpecialEffect's Mark Saville tells me. "It's the little things like this that can make some of the most impact. The remoteness helps separate families from the potentially difficult environments of an inner city, or a busy industrial estate. The area is calm, easy to get to for accessible vehicles, big groups of families and potentially large wheelchair accessible."

Dr Mick Donegan pops through and says hello and thanks me for coming. He's off out of the office for a visit to one of the many people SpecialEffect helps. These visits are essential because it helps the team to work out exactly what they need to do and how they need to do it.

When visiting, many things will be discussed and taken into consideration. Every wheelchair setup can be different, every disability can require different needs for the customised equipment and not every home is the same. There isn't a one size fits all solution to anything that SpecialEffect does and these visits help the team see the surroundings they need to make their equipment for, how easily it can be fitted or removed, and to take into account every perceivable factor, environmental or otherwise.

> **The amount of support we get from the industry is incredible**
> *Nick Streeter, SpecialEffect*

I then got to chat with Bill Donegan, who is a projects manager, and fundraiser Nick Streeter. Firstly we talk about the most difficult or weirdest project they've had to convert a game for. "I think it would have to be *Black and White*, you know the god game with the big hand," Donegan says. "It's not one we expected, you know everyone asks for a *Call of Duty* and such but this person just wanted *Black and White*, so we found a way."

FIFA and some driving games are the easiest to adapt. "We've got a lot of experience in *FIFA*. It's a game that is simple to play and easy for people to play with limited controls," says Donegan. "I'd like to meet the person who put the two controller option into *FIFA*," Saville explains. "You know, to him it was probably just something he did one morning but it's made the game so accessible to so many, it wouldn't be possible without that one choice and the work that developer did."

We tend to forget as adults that inclusion, like playing *FIFA* with friends, can be just as big a part of a recovery process from an injury or disability. So why is it that when I play using SpecialEffect's Eyegaze tech, a special camera attached to a laptop that tracks my eye movement and acts as a game controller, that I'm playing a racing game?

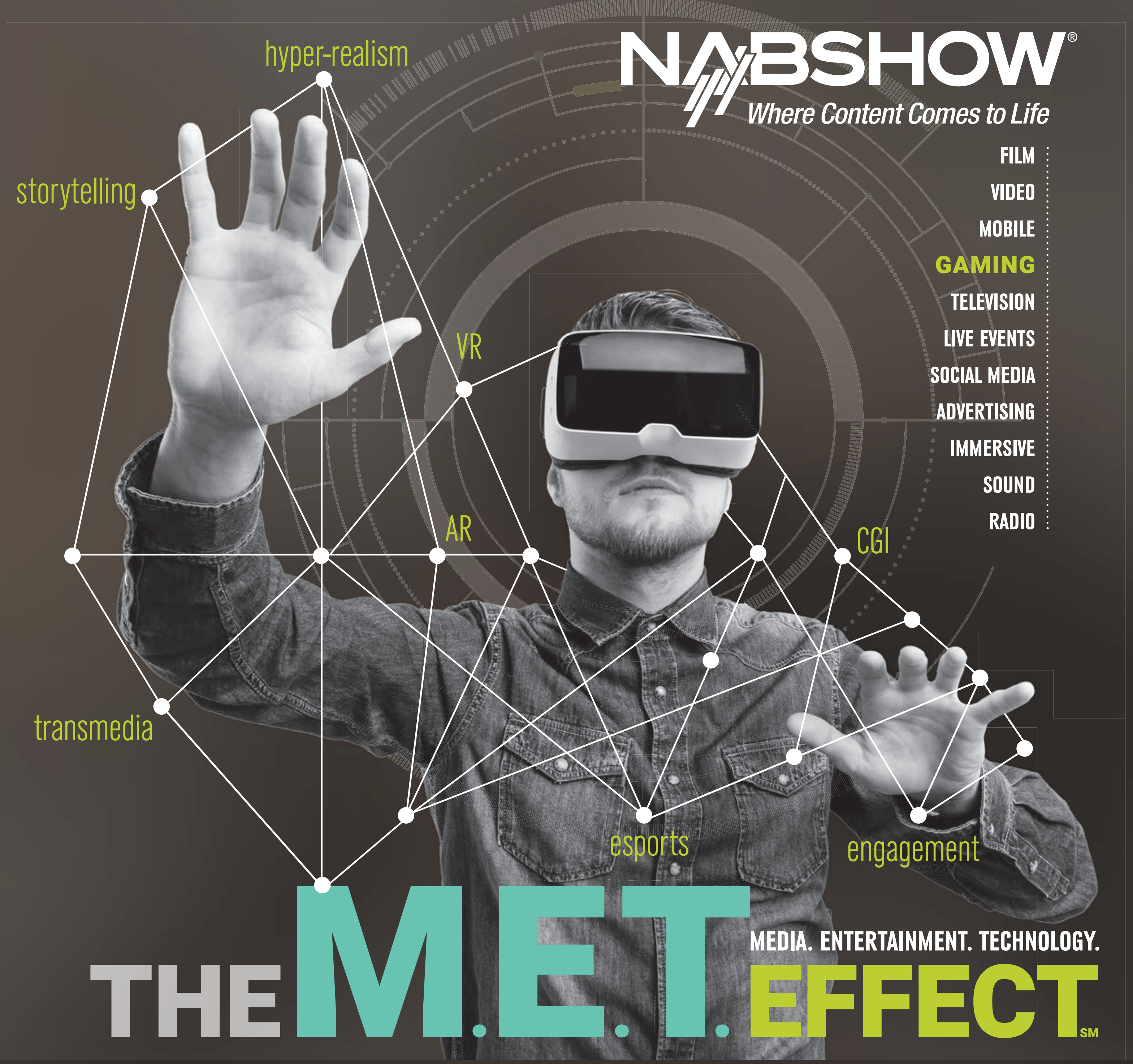
"Racing games are really good for assists," explains Donegan. "You've got things like auto brake, auto acceleration and auto steering, and you can also have a lot of customising options for control deadzones. These games, *DiRT 3* and *DiRT Showdown*, have excellent options, especially for Eyegaze." SpecialEffect has a wishlist on their website which is a guide for developers that want to make more accessible games. "We can't expect developers to make games that specifically think of these things," says Saville. "But it would be great if there were things they could put in so that we could work on the controls for these projects."

"The amount of support we get from the industry is incredible," says Streeter. "We get things to auction to raise funds and everyone in the industry is so supportive of getting our message and what we do out there."

Shortly after I play a game of *Rocket League* against Donegan (which I lose) using the adapted analogue stick box for use with a chin, it's time to go. Gav Raeburn of Playground Games said: "the dedication SpecialEffect show in making video games accessible to those who would otherwise not be able to play them is as inspirational as it is humbling."

It is exactly that – Inspirational and humbling. This team of 18 people with many skills work tirelessly to make people's lives just that little bit better, enabling the simple act of play for someone who couldn't do so before.

I feel like I know a lot more about not only how they do it, but why they do and I implore everyone to find out for themselves. ■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INSIDE
ROVIO
LONDON

A gaming giant has come to roost in the UK capital and it is establishing a place where games developers may find themselves working alongside magicians, as **Will Freeman** finds out

Angry Birds creator Rovio opening a new studio in London marks a significant move for the developer, publisher and icon of mobile gaming.

It is Rovio's only team based outside of the Nordics. The core team is still being assembled, under the guidance of Mark Sorrell, head of London Studio and he is currently full of enthusiasm about the thrill of tackling what he calls an 'exciting problem'.

That 'problem' is the challenge of building a thriving mobile MMO. But Rovio's move from the Nordics isn't only about tackling a new genre. It is equally about talent. For Rovio, London not only provides a rich pool of local talent, but also a globally appealing destination for skilled games makers from across the world.

"The core reason for opening outside the Nordics at all – rather than specifically London – is because Rovio employs 10 per cent of everybody who works in the games industry in Finland," Sorrell offers. "So while we absolutely have no desire to grow here really very quickly, it's just a case of wanting to have extraordinarily good people, and extraordinarily good teams. And there's ultimately a limit of what is possible, whether you're in Helsinki or indeed Stockholm."

LEAVING THE NEST

Rovio's various studios continue working on a wide spread of gaming forms. And it is London, Sorrell believes, that will tackle projects that are least typical of Rovio's output.

"Our three Espoo studios are covering genres that we at Rovio are very comfortable with," Sorrel confirms. "Those are genres I think we understand – we understand the market and the product there, and they are something of a bedrock of the company at the moment."

Rovio's Espoo Battle Studio is working on original IP mid-core PvP releases, such as the on-going *Battle Bay*. It's an example, Sorrell says, of Rovio tackling a genre that is not absolutely characteristic of the wider company's background. And by contrast, what is underway in London will be even less typical.

"Perhaps the very furthest away from the bedrock of what Rovio games are is us," he suggests. "Here in London we're working on MMOs, which is something we at Rovio obviously haven't done before. And it's non-*Angry Birds*, specifically. So we're stepping away from the core there too. That's not to say that what we make won't be very identifiably Rovio when it comes out. That's absolutely one of our aims."

THE CHEWY PROBLEM

Rovio London hopes to have a playable game available in 2019 and, beyond that detail, the London team is currently intently avoiding a commitment to exactly what form the game will take; something of a distinct creative decision.

"We felt it was important, if we were opening a studio, to make sure that it had really exciting, chewy problems to explore," says Sorrell. "And the mobile MMO sounded like a great problem for us."

> **I'd love to hire a magician. I think it would be fantastic to hire anybody who has done any kind of magic**
>
> *Mark Sorrell*

It's a challenge that's going to need a good investment of time, but it is the scale of the challenge of delivering a truly popular mobile MMO that fills Sorrell with excitement.

"Exactly what that game will be is not my job to work out, to be frank," he states. "I say that at the moment I'm hiring the team that will hire the team that will make the game. So that's what's happening now. It's my job to provide direction, and it's certainly my job to say what we're not making. But it's definitely not my job to say what we *are* making. It's no good hiring really good people and then saying 'do exactly this'. We want to say to those people 'we have this problem, and here's the context.'"

With all this talk of hiring, it's worth asking an important question. Why should a developer look at a position at Rovio London?

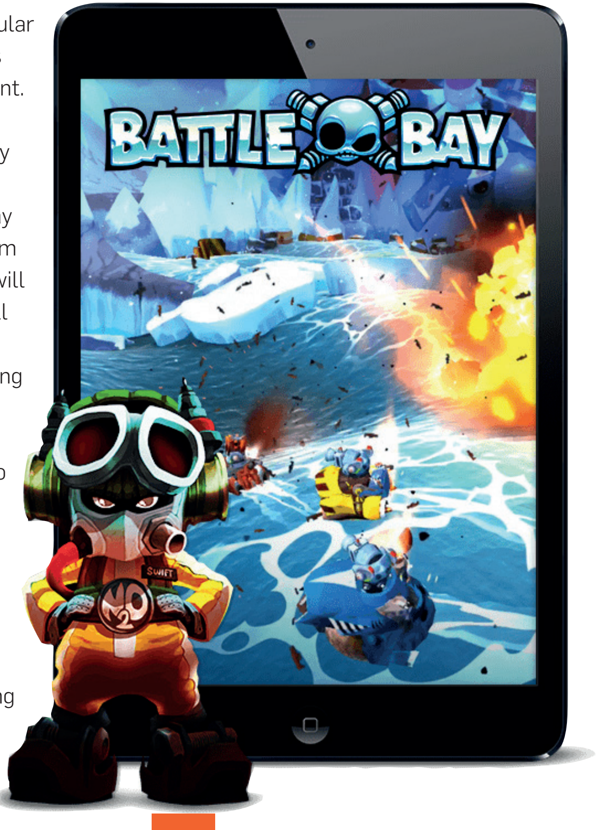
"It's a chance to solve a hard problem," Sorrel responds. "It's a chance to do something difficult. We are keeping it small, for now. We're planning eight people year one, including me, and then 20 in year two. We're might grow a little more, but until we have a game out I can't imagine us getting much bigger."

The studio is equally focused on employing in the spirit of diversity. Importantly, the definition of diversity at Rovio London is – well – diverse.

"I'm extremely, extremely conscious of having a diverse group of people, with different backgrounds and different experiences, both in terms of life experiences and professional experiences," confirms Sorrel.

He is keen to foster diversity in the traditional sense, certainly, but the studio head is equally keen to employ from a broad range of professions and skill sets.

"Diversity is that across your team, you want to have a wide variety of people," Sorrel says. "It's not about individuals being diverse themselves. Across the team, I think I'd be crazy if I didn't want to have at least 50 per cent – for instance – of them being experienced in making games.



"But we'd be equally mad if we didn't want people who have ever done it before. Those people can suggest to us those completely crazy things nobody has done before. How many of those ideas and how much of that thinking makes it into a game is not really the point. It's about having people that are open eyed, have never done this before, and is equally as valuable to making an amazing project.

"I'd love to have an architect. I'd love to hire a magician too. A magician's top of my list," he reveals, pointing to the skill of misdirection as particularly relevant to crafting games. "I think it would be fantastic to hire anybody who has done any kind of magic. I think we'd get a lot from a stand-up comedian too. I think there's a lot that they could teach about weird things. I'm thinking about how somebody in fashion marketing or a supermarket designer could help us too. There's loads of roles I'd like to bring here."

Sorrell's commitment to opening up the skill set of games making is invigorating and likely to be hugely enticing, both to developers and those from unrelated fields.

LIBERATING NICHES

That diverse team will work on shaping Rovio's MMO; a process Sorrell says will be guided by considering how to take niche genres to mass audiences. Blizzard sets an example, Sorrell believes, that Rovio London can build on.

"It's definitely true of this studio that we're interested in 'de-nicheing'," Sorrel offers. "It's the idea of taking something fantastic and familiar to a small group of people, and bringing it to a much, much larger audience. I think we look up to Blizzard, because they've done this successfully.

"We have to ask what the core experience of a genre is, and what it really means. We want to give that to a wider audience."

For Sorrell, the appeal of joining Rovio London was this de-nicheing process, and the challenge of exploring what a new game should be – and what it shouldn't be.

It may be some time before we see even a glimpse of what the studio's game will be, but one thing is certain. It is likely to be inspired by a very distinct team make-up. As a starting point, that's an encouraging sign. ■

EYES ON **THE PRIZE**

It's no secret that things are getting difficult for publishers and developers alike in the independent PC space. With an estimated 4,500 games published on Steam last year, it has become harder and harder to get eyes on your prize product, as it disappears behind the "popular new releases" tab on Steam.

Thankfully Valve is aware of this and is putting things in place to help. But in the meantime what can we do to help ourselves?

Well, one of the key things is to make sure you get your games listed everywhere else. A good bright front page listing on another vendors' website is as good as an advert or review in adding discoverability.

Okay, so sales volumes and royalties at the end of each month may not be significant from some of these guys, but how many eyes have been on your shiny screenshot? How many consumers inspired to put your game in their wish list for the next time it comes on sale on Steam? How many people has this listing just triggered to find out more?

As a publisher, we work very closely with all vendors, and not just the full-time stores like the excellent pro-active Green Man Gaming. Bundle sites also have quite active stores and run their own promotional events (not bundles) for your full price game. The likes of Humble Store, Galastore, DIG and Bundlestars store are all very reactive and offer great promotional activities for your titles.

> **One of the key things is to make sure you get your games listed everywhere**
>
> *Darryl Still, KISS CEO*

Their users are not exclusive to them, but may either purchase from their store or via their Steam account. Publisher owned stores like Origin and UPlay are harder and less indie focussed, but there are many white label sites like Nexway and Ztorm, which offer a good service to hundreds of retail sites around the world and are always worth getting listed on.

One of the best known vendors out there (who we have had high expectations for – so far not met) is the mighty Amazon. They have failed so far to crack the huge download market, stumbling across issues of territory, staff changes and many of the other bureaucracies that beset massive corporations. They are focussed on this, but in the meantime the numbers they deliver are out of all proportion to their potential.

Their audience is huge and discoverability for your game through the Amazon sites around the world can be massive. Getting them listed is a complete project in itself, but one well worth doing, or getting a publisher to do for you. It will not pay back (yet) in number of units sold, but how many times have you found an album on Amazon and then gone to iTunes to download it? The same applies with games – a good attractive Amazon listing can drive many sales through Steam.

Hopefully one day Amazon will see the benefit of putting more time and effort into an industry that, after all, is bigger than the film and music industries where it made its name.

So get your games listed on as many sites as you can, or get a publisher who already has contracts in place to do it for you. They probably won't do it without getting Steam rights too, as it's still mostly Steam sales they are driving, but it is an essential part of any publisher package these days.

Get listed. You never know who may be looking for a game just like yours. ■

WHY WE LOVE... BATMAN: ARKHAM VR

Every month we focus on a game that we love, which shows off our favourite examples of innovative and interesting game design. This month, we (literally) step into the world of Arkham VR

Before you begin to don the cowl, before you descend into the Batcave and before you can even contemplate throwing a Batarang, a suggestion is made – "You can play this game standing or sitting, but we recommend standing."

The perception of your surroundings in VR is an important part of the immersion. Another request the game's initial setup asks of you is to stand within a circle. This seems like it's part of the PSVR's calibration, but at the same time it feels like so much more. The game is making sure it can see where you are in order to create its impressive introduction.

The impact is immediate. When the smoke clears and the logos saturated with the grime of Gotham's skies disappear, you will be stood atop the roof of the Gotham City Police Department. You'll look to the skies and see the bat signal, turn around to see the light it's coming from, and then you'll look forward and return your gaze to the Batman logo.

As you do, you realise that there's a railing in front of you. And there's enough space, just, to take one step towards it, lean forward and look down and feel your stomach lurch from a sense of vertigo. There are the cars, the signs on the building and the sense of dominance as you safely (despite what your body is telling you) yet cautiously command this view.

And you have to take that step. Every fibre in your being makes you take that step. You could refer to it as The Imp of the Perverse, in reference to Edgar Allen Poe's short story. But it's embodied here in you, the player – the curiosity of what's just over that edge regardless of your fears and self-preservation. It may just be calibration, it may be guiding the player to get the best out of the next moment and the immersive impact of the menu screen, but it's excellently executed.

Once you start the game, you relive the final moments of the Wayne family as the young Bruce Wayne (complete with child-like height), hiding behind your mother. It's in experiencing these moments for the first time in this perspective that you realise that Batman could easily never have happened if the assailant was just a bit more trigger happy. It's incredible how well that feeling of vulnerability comes across in the VR perspective.

Now the tutorial – the descent into the Batcave. Every single action informs your interaction with the game controls and the game world, from the gloves to the Batarang and to the moment where you look in the mirror. You are in this suit and while the most pessimistic part of you knows you're in a white and black headset standing in front of a TV, you are also looking at yourself – and you are Batman.

Batman: Arkham VR isn't a long game and that suits the time that you spend in VR. Every single choice seems to highlight the best of the chosen apparatus, from the move controllers being able to point, throw and scan accurately, the Batclaw quick travel and the headset itself for immersing you in the mind-bending world of the vigilante detective.

Batman has a lot of advantages and disadvantages when it comes to creating an immersive world. But that comes with the difficulty in managing the expectations of the player in becoming the Batman character.

It's a tough balancing act. But the moment you start up the game, look around, and find the railing in front of you, and you take that one step to look over the edge, it doesn't matter if you can believe that you're Batman, because you're utterly convinced by this world. And you will take that step, it's impossible not to. After all, curiosity never killed the bat. ■

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WE NEED TO TALK ABOUT CRUNCH

Crunch is still all too common in the games industry. **Marie Dealessandri** asks Partnership HR, Sony Interactive Entertainment London Studio, Real Time UK, Playtonic and Rare how they tackle the issue

We've all been there: one day deadline day seems like a vague idea, a distant point in time, and the next day, everything rushes. You suddenly realise all there is to accomplish and you end up drinking an insane amount of coffee and working every evening and weekend.

This is crunch and it's a plague on the games dev industry.

Kelly Murrell, HR consultancy director at Partnership HR – who in the past worked with the likes of Microsoft – thinks the first problem with crunch is not the company or the management team, but the employees themselves and how they perceive what is expected from them.

"The way I sometimes hear crunch spoken about, it almost seems as though when it happens it is a 'rite of passage'," she tells Develop. "If you haven't been through crunch, have you really pushed as hard as you could have to deliver the best game possible? The temptation can sometime be to put in as much as possible before the deadline. I also think it is hard for people to go home on time or to not work the really long hours when you see your colleagues doing this, which perpetuates crunch."

She continues: "This impact on perception also leads me to worry about how much 'presenteeism' occurs in crunch. Having people at their desks as there is some comfort in the numbers of people working on something, rather than people being there because there's something they need to get completed that is truly integral to the game."

> **Avoiding crunch is the responsibility of every person on the game team**
> *Liz Wyle,*
> *Sony Interactive Ent.*
> *London Studio*

EVERYONE'S RESPONSIBILITY

Crunch is a complex issue and, while most studios agree it's difficult to avoid these periods, they all have a different approach to addressing the matter. Echoing Murrell's statement, Liz Wyle, executive producer at Sony Interactive Entertainment London Studio, reckons it first and foremost comes down to teamwork:

"Avoiding crunch is the responsibility of every person on the game team and they've all got a different role to play," she says. "It's up to the producers to be thorough in their planning and to ensure that adequate contingency is factored into the schedule so that the late and inevitable changes can be made without delay. It's up to the design team to make the most of confidence-improving prototypes and design docs to help try to avoid unnecessary work when it turns out things are less fun to play than expected. It's up to programmers and artists to learn from past projects and to use their experience to hone their estimation skills and lose their natural tendency to either overestimate or underestimate the

> **At Playtonic, individuals can decide for themselves what crunch is**
> *Gavin Price, Playtonic*

> **When we do experience crunch time we work as a team to support each other**
> *Jane Forsyth, Real Time UK*

work. It's up to QA to test design as well as code and art. It's up to leadership to find ways to push work forward in the dev cycle and to ensure everyone is working smart. And it's up to everyone in the team to communicate well and have the difficult conversations that must be had when someone's gut is telling them things are off track. Only then can the right people respond and mitigate the risk or clear the issue."

Planning and communication are the key to avoiding crunch, agrees Real Time UK's head of production Jane Forsyth: "It is inevitable that there is crunch time at any studio, especially one like ours where every project is different and we're continually using new techniques to push internal boundaries. We do however try to avoid it with planning, milestone sign offs, and so on."

Although crunch is everyone's responsibility, studio heads also favour an individual approach when needed, such as Playtonic's studio director Gavin Price.

"We have a diverse range of opinions on what constitutes crunch and so our approach is to listen to each other's individual opinions rather than apply a company-wide definition of 'crunch'," he tells Develop. "For some, myself included, working consistently longer outside of core office hours is fine, however for some the time away from the office is more valuable to recharge and enjoy other activities and hobbies. A one-size fits all solution, though easier to manage is ultimately a lazy, unfair and broken one. At Playtonic, individuals can decide for themselves what crunch is and never be expected to align to someone else's definition. We respect individual choices and strive to find ways no one person is crunching by their own standards and pre-emptively find solutions. Be it sharing the bug-load, moving features around, re-thinking how to achieve a result more efficiently or avoiding making bad decisions in the first place. Are we doing this perfectly? No, I'm sure we make some common mistakes. Too often we want to put more content in than can be realistically delivered to the high-quality we expect of ourselves. But our individual-focused approach and commitment to avoiding crunch have helped us do better than we ever did working elsewhere and having *Yooka-Laylee* go gold very recently, we now have a metric to measure ourselves against in future and do better."

HEALTHY TEAM, HEALTHY GAME

When badly managed, crunch can have a devastating effect on the team, which ultimately will have a lingering effect on the finished product.

"If this increase in activity is prolonged, it can lead to growing fatigue within the workforce, which can have a knock-on effect on morale, staff sickness and retention, which is a bad thing for a studio," Rare's HR manager Susan Russell explains.

Partnership HR's Murrell adds: "Intense and sustained periods of crunch not only impact the wellbeing of people working long hours, but I think also have the potential to have a negative impact on the product as performance can only decrease as people's wellbeing is impacted. But also, perspective can be affected. Distance, time out and a change of scene all afford opportunities to reflect and achieve clarity about the work at hand and what really makes the biggest difference, rather than being stuck in a single mindset of just needing to get stuff done. I think perspective on the game, why you are doing it and the choices you make, are really important and I think crunch can affect this."

But, sometimes, very basic day-to-day improvements can help relieve the pressure, Russell continues: "The company ensures that the team receives adequate rest periods, good healthy food and breaks from work in the form of massages or personal training sessions to ensure people move away from their desks. At the end of any intense periods, we also look at giving people time for rest and recuperation."

Knowing when to actually end a crunch period is crucial and managers should be aware of this, Murrell further says: "After long periods of crunch it can be difficult to get out of the 'habit' of working late nights. Studio leaders need to clearly communicate for people to take time out. We should be mindful of those we see continuing to be in long hours to ensure they are not feeling this is something they are having to continue doing."

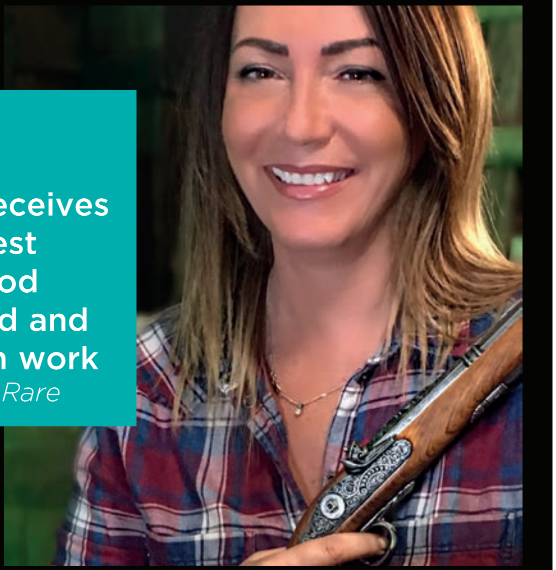
Apart from the very much-needed support from the management team, Real Time UK's Forsyth also highlights the importance of supporting each other within the team: "When we do experience crunch time we work as a team to support each other. We endeavour to bring in extra help and spread the workload where possible. Making sure the artists are well fed and have a few treats for those extra hours they are there also helps. We also try to front load tasks at the start of a project to allow that bit of extra time to polish and perfect, taking some of the pressure off the team at the end of the pipeline."

Providing regular training to the staff beforehand is also an easy way to avoid crunch – a well trained team being more unlikely to lose ground and thus able to avoid crunch in the future. “[Studios can care for their employees by] providing the training that improves a team's ability to plan effectively and improve their predictability,” Sony's Wyle confirms. “Ultimately predictability is tied to enough people being experts at their craft, communicating well, and having difficult conversations when they need to be had.”

At the end of the day, it all comes down to communication, Murrell also reckons: “I think it is essential for everyone in the team to know that it is okay for them to discuss how they are feeling or the issues they may have. We can all look out for each other and know it's ok to talk when something is not quite right to find an alternative approach.”

She concludes: “I know for some crunch is part of the journey and a necessary part at that, as it is part of a creative endeavour. And that from crunch can come great comradery and sense ofachievement, which are things to be valued, but it would be great to think this can be achieved whilst ensuring a happy, harmonious and healthy team.“ ■

> **The team receives adequate rest periods, good healthy food and breaks from work**
> *Susan Russell, Rare*



MOVERS AND **SHAKERS**

The latest high-profile hires and promotions

JAGEX

The RuneScape developer has named **PHIL MANSELL** as its new chief operating officer and acting CEO, following the departure of **ROD COUSENS.**

Mansell has been working in the industry for 18 years, starting his career in 1999 at Bullfrog Productions. He briefly joined EA and Gameloft in 2000-2001, before spending over five years at Sony as designer. He joined Jagex in 2011 as lead designer and has been design and monetisation manager, executive producer, VP studios.

He commented: “Driven by a passion for creativity, our teams are focussed on what really matters for the core business – supporting our live titles and their huge communities and leading the creation of new games.

“Off the back of record financial performance, Jagex is in an incredibly fortunate position. We have become stronger with every year that passes and now that we are united with our parent company, ZhongJi Holding, it is both an honour and a privilege to take Jagex to its next stage.”

IO INTERACTIVE

The Square Enix-owned developer has promoted **HAKAN ABRAK** to head of studio. Abrak joined Io Interactive back in 2006 as producer and is replacing **HANNES SEIFERT,** who left the Danish studio to work on a new unannounced project based closer to his home in Austria.

Abrak stated: “I am truly proud to take on the role of studio head at Io Interactive – this is a studio I am fiercely passionate about. We have established a strong direction for *Hitman* and as a studio we will continue to innovate and push into the digital gaming space as we strive to build unique experiences in gaming.”

KEYWORDS STUDIOS

Localisation and technical services provider Keywords has hired **ED LIMA** as audio manager, based in the firm's Binari Sonori studio in Burbank.

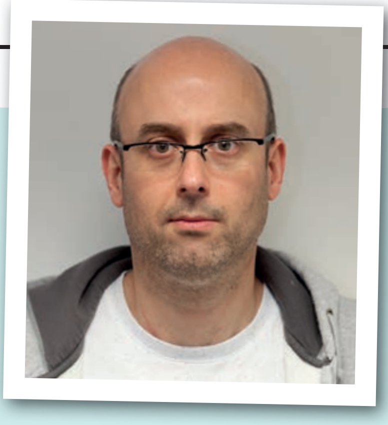
As a composer and sound designer, Lima previously worked on the likes of triple-A titles such as *Doom 3*, *Brothers in Arms: Hell's Highway*, *Titanfall* and *Alone in the Dark: Illumination*.

Having been in the industry for the past 17 years, he will now lead Keywords' Los Angeles office audio operations.

Global audio service line director **ANDREA BALLISTA** said: “I am very pleased to announce the appointment of Ed Lima as audio manager in our LA studio.

“This is an important new hire for us. Ed brings a wealth of audio production experience and valuable know-how; he will surely be an asset to our team and will allow us to broaden the range of audio services we can provide to our clients.”

GET THAT **JOB**



This month: Senior engine programmer with Rebellion's **Jeb Mayers**

What is your job role?

I am a senior engine programmer – I maintain our graphics engine and other core systems alongside other coders across all platforms, but I tend to be the PlayStation specialist. The engine forms the core set of libraries that all our games, such as *Sniper Elite 4* and *Battlezone*, are built on. During my 22 years in the industry I have performed most coding roles and across all platforms.

What qualifications and/or experience do you need?

There is no formal requirement on qualifications for programmers but at a minimum we'd expect good A-levels and a good degree in a maths or science related subject and at least some basic programming knowledge. I think the best qualification I've ever had was a keen interest in games, not just playing them but actually thinking about how things worked in them while I played. When the consoles came along I would wonder just how you'd go about getting the code and data onto a cartridge and what it would actually take to program these magic boxes that lived under the TV. Lastly, a solid knowledge of C++ is a definite advantage, but most of all know how to solve problems using code in an efficient manner.

How would someone come to be in your position?

Get your first job in the industry and progress through the ranks. Learn how to write solid code and most importantly test your code properly. You also need to be able to communicate with other members of staff to explain how to use engine features, or to get an understanding of what's required if you are implementing something new. A good memory is important – if that doesn't come naturally then making notes will help you down the line.

> “Make sure you can talk about things you've coded because if you mention it on your CV we will ask you
>
> *Jeb Mayers, Rebellion*

If you were interviewing someone, what do you look for?

We look for enthusiasm for the industry and a passion for games. We look for people who are able to talk about code they have written in a confident way. Make sure you can talk about things you've coded because if you mention it on your CV we will ask you about it. We also do a formal coding test at Rebellion that consists of two parts. In the first part we discuss each question beforehand to get an idea of how the candidate communicates and is able to discuss problems with others, and how they listen to ideas. In the second part we leave them alone to actually implement the tasks, hopefully with the knowledge that they know how to progress.

What opportunities are there for career progression?

From my current job, I would be looking to progress to a head of coding position or technical director, but with these positions comes a lot more administration and less chance to actually code, so that has to be taken into consideration. In the past I have been lead programmer on a game and even head of R&D, so there are lots of chances to move sideways as well. ■

SKILLS AND TRAINING

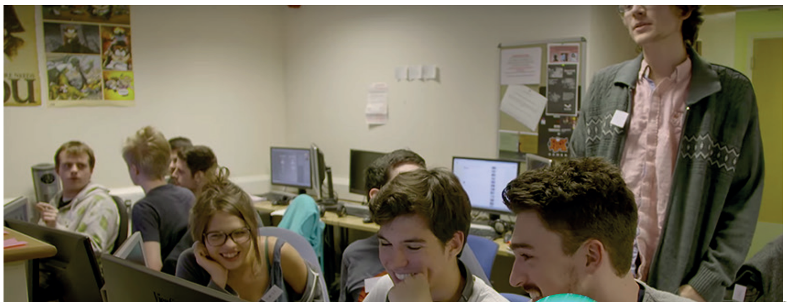
This month: Lecturer in Games Design **Mario Michaelides** talks about Brunel University London's syllabus

Overview: Brunel University London has four games-related undergraduate courses: Games Design BA, Computer Science (Digital Media and Games) BSc, Games Design and Creative Writing BA, Games Design and Film and Television Studies BA. The uni also offers a Digital Games Theory and Design MA.
Address: Department of Social Sciences, Media and Communications, College of Business, Arts and Social Sciences
Brunel University London
Uxbridge, Middlesex, UB8 3PH
T: 01895 265787
E: thaleia.deniozou@brunel.ac.uk
W: www.brunel.ac.uk/games-design

Brunel University London's BA in Games Design offers four paths that students can pursue based on their interests: design, art, technology, and game studies.

“Game design is at the core of what we teach and is a multi-disciplinary skill that covers the creation of rules, art, software use, communication, writing and much more,” lecturer in games design Mario Michaelides explains.

“We offer pure games design courses - not a rehashed computer or media degree with games stitched on. Our modules have been developed from the ground up, designed specifically for game design students.”



Brunel University London has a dedicated games lab open 24/7 that only students can access. “The lab contains top-end gaming PC's with dual-monitor set-up and graphic tablets,” Michaelides says. “In the labs they have access to Clickteam Fusion, Unity, and Unreal, Adobe Creative and Autodesk Suites. We have a range of hardware too such as the HTC Vive, Oculus Rift, and a range of mobile devices. There's also an arcade machine in the lab to show how hardcore we are!”

Brunel also has a partnership with Octopus 8 Studios, which offers summer internships to the uni's undergraduate students every year.

REALLY GHOST?

“In small teams, they design, develop, and publish a game in three months,” Michaelides continues. “We also have close relationships with other UK game studios such as Mediatonic.

“Our students are always working on games. Each year provides multiple opportunities for students to design and develop. Developing their portfolios is important to us and their employability.” ■

RECRUITER HOT SEAT

Resource manager Nick Duncombe talks about Playground Games growth and the studio's new triple-A project, for which it's looking to hire around 100 devs

We are Playground Games.

CURRENTLY HIRING

Company: Playground Games
Location: Leamington Spa, UK
Hiring: Playground is looking to hire around 100 devs, across all disciplines to work on a new, non-racing, open world action project.
Where to apply: www.playground-games.com/careers

What differentiates your studio from other developers?

Playground is an especially exciting place right now. With the release of *Forza Horizon 3*, we've had our best year, both critically with a Metacritic score of 91, and commercially with over 2.5 million units sold. With the recent announcement of Playground starting a second triple-A project, there is a buzz both in the studio and press as to the future of Playground.

How many staff are you looking to take on?

In addition to our normal growth, we're looking for around 100 developers to join us on a new, non-racing, open-world action project. We're currently hiring across most disciplines, particularly our engineering and art departments, and at all levels, too.

What perks are available when working at your studio?

Aside from very competitive salaries, private healthcare and a contributory pension scheme, it's very important to us that our team shares in the success, so every member of staff at Playground receives royalties. We're really proud that we've been able to pay royalties to our team every quarter going on three years now. Working here has lots of day-to-day perks too, including flexible working hours and 25 days holiday, increasing with every years' service. On top of this we have an additional 2 'duvet days' a year taking holiday allowance to 27 days for new starters. 'Duvet days' are particularly popular with the team as they can book a day's holiday that very morning, perfect for emergencies. More common-place perks include, free breakfast, drinks and fruit, subsidised snacks, extensive game library, the much-loved pinball machine, pool table, retro arcade machine and not forgetting the obligatory ping-pong table...

We have a great community spirit bolstered by studio events including, 'Pub Thursdays', the Playground Christmas Party, Summer BBQs and, of course, the wrap parties!

> Not everyone at Playground is a petrol-head. Our common thread is a passion for games
>
> *Nick Duncombe, Playground*

What should aspiring devs do with their CV to get an interview?

Go the extra mile. Tailor your application to the role matching the requirements within the job advert to your experience. This makes reviewing your application much easier and ensures we don't discount you for any lack of experience on your application.

We also like to see not just industry, or University, projects but your personal projects too. They help show us that you're passionate about this industry and it's not just a job to you.

What advice would you give for a successful interview at your studio?

Preparation is key, do your research on both Playground and your interviewer. Understand the role profile and how your past experience, or knowledge, makes you suitable. We make racing games, but not everyone at Playground is a petrol-head. Our common thread is a passion for video games, so applicants who really familarise themselves with our games, and can talk proficiently and offer opinion on them, always impress.

If you have recruited internationally what is the process like?

We recruit globally and Playground Games is made up of many nationalities. International applicants follow the same process as domestic applicants with an initial Skype video call, followed by an interview at our studio in Leamington Spa and then potentially an offer of employment. To help, and in addition to securing a visa, we offer relocation allowances, use of the company apartment and the services of a specialist to assist new staff with familarising themselves with the local area and schools, if they have children.

How have recruitment needs change at your studio?

With the announcement of our second triple-A project, we are looking to hire around 100 developers in 2017, but we maintain a high-bar and only hire the most talented developers. With the nature of the open-world games we create, in addition to the technology we develop, we're especially keen to increase headcount on our technical art, rendering, lighting and online engineering teams. ■

Follow us at: **@develop_jobs** #DevelopJobs
To see our full jobs board, sign up for our jobs newsletter or to post your own job ads, visit: **www.develop-online.net/jobs**

ASK AMIQUS

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

Q Dear Amiqus, I'm about to hit 30 and I'm worried I might get stuck in my current role and not progress. What should I be looking to do?

Things don't stay the same for very long within the games industry and progress is both one of the great challenges and the great joys of games. This ever-changing landscape means that spending a while in one job can feel like going backwards as the world moves on around you. So what does this evolution mean for your career, and how can you be sure to avoid getting stuck in a rut?

You are here

A great place to start is where you are today. What's the story of your career so far? There's always going to be aspects of your work you do and don't enjoy, so this is all about balance and understanding how far you have come, what you have learned and what needs more work to move your career on.

One way to do this is to write down the achievements, learning and development you have experienced in your role so far. This is a good time to review and update your portfolio and resume. Many people only do this after they've already decided to move on, but updating your CV doesn't mean you have to apply for a new job. Your portfolio can be a very useful tool to take stock of your work over the years and assess where you are up to in your career.

As well as thinking about your own job, try to put this in context with the progress your employer has made during your time with them. You may have made significant progress in responsibility as the studio has developed and grown.

Head in the right direction

Road-mapping your ambitions can help clarify where you want to be and when. Does your current career path lead you toward or away from where you want to be?

You can make a start on this by yourself, but if you have a good relationship with your line manager then sitting down with them to talk about it can be a great help.

Be open to asking for feedback about your development needs as well as your strengths so you can plan together with your boss how you will progress your career in line with what the studio needs from you. This can also help you stay motivated.

However you also need to be prepared to accept the possibility that your long term ambitions may not be available where you are today. If your path is taking you away from your dream then how much do you want it, and what are your alternatives if you do decide to move on?

> A key thing to think about is what progress means to you - there's no right or wrong answer

What progress means to you

A key thing to think about is what progress means to you - there's no right or wrong answer. For some this means managing a team or running a studio one day, but for others progress could mean becoming a technical or creative expert and not having any direct reports at all. You may even decide that your job title or career position is less important than what project you work on.

For example you may define progress as to always work on AAA or to keep following the tech to work on the latest platforms. It's also important to be realistic.

A work history, which shows progression over a reasonable timescale is key to demonstrate the right duty of care and depth of experience, so think carefully about moving too fast or too often.

Keep flexible, stay valuable

Regardless of age, when it comes to your long-term career it's always a good idea to keep your skills up to date to avoid getting stuck. Compare your current role to market trends - are you on the right platform; deploying the latest tech; using the current software releases; or working on the right games?

Staying up to date makes sure you remain valuable to both your current employer and the wider industry and this is a prerequisite for progress.

If you're creative, keep feeding your portfolio and utilising current software packages and developments like PBR. For coders, experience on the most powerful game engines and tech is very attractive. Production people need to stay across current methodologies and project work practices where QAs may need to balance how far their technical tools sustain the demands of new types of game experiences.

Whichever discipline you work in, many 30 somethings are still carving out a path and experiencing formative work experience.

Making a move

If you do decide that you can't fulfil your ambitions where you are, you don't have to quit and swap careers overnight. It's possible to spend time building a new foundation of skills or a portfolio in your own time through training and self directed work, to make the move when the time is right. Use all the resources available to you to help get on to the right path – talk to recruiters, read blogs, follow companies of interest on LinkedIn.

Do your research about the right decision for you so you are fully informed well ahead of when you do make your move and you have a good idea of which companies could give you what you're looking for.

There is a lot of competition so if you want to move ahead don't be afraid to constantly push yourself toward new areas and away from your comfort zone. ■

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

amiqus Visit **amiqus.com** for a fresh perspective on games recruitment

GAMES LONDON

March 30–April 9 2017

Sean Cleaver speaks to festival director, Michael French, about this years london games festival

Tell us about the history of the London Games Festival

We debuted last year and instantly made an impact with 38,000 visitors to our events over 10 days. The line-up last year included a range of events hosted by us, EGX Rezzed and the BAFTA Games Awards, Now Play This at Somerset House – and our signature moment, a giant Monopoly board at Trafalgar Square.

For 2017 we're aiming bigger – we expect to see 50,000 attend across the board.

The whole project is delivered by Games London, which is a joint initiative between capital screen agency Film London and UK trade body Ukie. We're funded by the Mayor of London through the LEAP, which supports projects that drive business growth and create jobs. The Festival is a key moment in the Games London programme and when we're not organising the festival we are working on a trade programme that brings investors in to the city and takes developers out on trade missions.

Why London?

London is the UK's biggest hub for games and one of the key centres in the world for making and playing games. There are over 500 games companies in the capital, with leaders in mobile games, big budget games and eSports, plus emerging fields like artificial intelligence and VR. Many Londoners may not realise that some of the most popular games in the world, such as *Monument Valley* or *Football Manager*, are made on their doorstep.

Going forward our plan is to make London the games capital of the world through our Mayor of London-backed £1.2m plan to grow the number of games businesses here, support the existing ones, attract more investors to fund companies here, and promote the city through the London Games Festival.

London is a hotbed of talent, a financial hub, and is globally respected for its culture and creativity. The city is a real creative crossroads where tech-driven areas like film and TV, animation, VFX and games fields work in great complement and are world-leading hubs. Plus we're an iconic city for the many other finer arts, our nightlife and museums and culture. Right now in the city there are projects going on that mix theatre with VR, Academy Award-winning actors making console games, and some iconic museums working on ways to collect and present games. There's no other city in the world where you'd see that happen.

> **As for the parade... this will be a standout moment on the streets of the city**
>
> *Michael French*

Plus there is some fantastic government-led support for games such as the tax relief that can reduce the cost of games production by up to a quarter.

What's new this year at the London Games Festival?

The Festival's objective is to change perceptions around games – whether you are a games fan, a newcomer, or an investor. So we're always looking to provide something new. Our programme showcases how we have investable businesses, make world-leading games, and that the culture around games can be surprising and eye-opening.

We've just announced our key cultural tent poles – a music concert that features a live soundtrack alongside gameplay, an exhibition of games at Somerset House called Now Play This, and then a closing-weekend cosplay parade.

The Games Finance Market will bring together 60 games studios meeting 60 investors for the biggest – and only - event of its type in the UK. As for the parade... this will be a standout moment on the streets of the City, featuring cosplayers and official games characters.

The plan is to make the Festival deliver something as culturally rich and business growing back to London the way London Film Festival or London Fashion Week does. We're a nice contrast to the established events, too, in a vibrant city that people want to visit and with a range of events to suit many different audiences. ■

London Games Festival

Schedule Highlights

EGX Rezzed
March 30th to April 1st
Tobacco Dock

Dear Esther Live
April 1st
St John's at Hackney

AI Summit
April 3rd
Regent Street Cinema

Mixed Reality Summit
April 4th
Regent Street Cinema

Games Finance Market
April 4th-6th
The Grange Tower Bridge

BAFTA Games Awards
April 6th
Tobacco Dock

Now Play This
April 7th-9th
Somerset House

Games Character Parade
April 8th
City of London

For the latest updates and how to buy tickets head to: www.games.london

Develop readers get 10% off All Access Pass price using code: 'DEVLGF'

MODDING EVOLVED

As Studio Wildcard announces a new scheme to help compensate its modding community financially, **Sean Cleaver** got to speak to the team and find out more about their modding ambitions

> “ARK has such a huge player base, the best mods bubble up and it’s really evident which ones are the best
>
> *Jesse Rapczak, Studio Wildcard*

When *ARK: Survival Evolved* launched back in June 2015 in the Steam Early Access programme, modding was at the forefront of Studio Wildcard's mind. Within the first month of release, there had been over 1 million downloads. But it was the modding community who took to it like a Megalodon to water.

"We released the dev kit very early on in the games life cycle," says Jeremy Stieglitz, lead designer, programmer and co-creative director of *ARK*. "It was about two months after the game came out when we launched the dev kit and we were definitely pressured to do that by the community. We'd announced at the outset that we were thinking of supporting modding but we still weren't entirely sure how we would do it. And then every day was 'when's the dev kit coming out?' So it became a quick priority."

"It was always the goal for us to do mods," adds Jesse Rapczak, technical art director and also co-creative director. "It even came down to one of the reasons we chose the engine we did because we knew we could make it moddable. There was this precedent that if we build the mod support, they will come and develop for it. It will increase the longevity of the game, the likability of the game, the diversity – That was the biggest motivation from the beginning."

The new Sponsored Mods program aims to provide both advice and some fiscal support for people who are modding for *ARK*. "Modding is kind of a tough job because it takes a lot of time," Jeremy says.

"It's really no different from game development," Jesse interjects.

"Right," Jeremy agrees, "it is a job for a lot of really passionate modders, but at the end of the day people have got to eat. So they want to put some time into their work and when there's no way for them to support themselves they are faced with the decision of whether they spend all their free time making a mod, or do they get a day job and put food on the table. We can't solve this problem single handedly but we figured we could at least help out."

The team at Studio Wildcard will be selecting 15 mod projects every month and those selected will receive $4,000 to help with ongoing development costs. "If we can identify, with the help of the community, the qualitatively best mods out there and provide them monthly financial support," posits Jeremy, "we can enable them to, if not make a complete full time job out of it, spend more time to make these mods higher quality. Indeed, even finish them and ultimately benefit the overall *ARK* community as a result."

This isn't Studio Wildcard's only dabbling in incentivising modders, having previously offered a $60,000 prize for mods that would be adapted into the game, it's also thought long and hard about what works.

"One way to do it would be paid mods where the end user can buy a mod," Jeremy says. "But *ARK* isn't really that kind of game, plus it's been really controversial in the past. We figured it'd be better to go directly to the source. We've been experimenting. We've run some modding contests; we've even hired modders as part of what we call the 'Official Mods Program' as a precursor to this that involved us outright buying mods.

"But the problem with that is it's not scalable. We can't endlessly buy mods and endlessly hire people. When we take mods in-house, that way we have to support them forever, run servers for them and it's just not a scalable system. We want something we can scale for ten, twenty, maybe a hundred mods one day without having to grow the team that large."

Adding mods can invariably change the gaming experience. Of course you can get improvements, the extra benefit of another person's creativity or an idea you'd never even thought of. But there's a balancing act to make sure you don't cause game-breaking bugs and errors. The lack of control and fears of user mods not working 'the way they should' was one of the reasons Sony initially didn't allow modding support for Bethesda's games on PS4.

"I wish there was a better pipeline for console mods," says Jeremy. "Like lighting and stuff in Bethesda's *Fallout*. It's really tough, they have to build an entire infrastructure themselves to distribute and maintain. It'll be interesting if the platform holder themselves, Microsoft and Sony, could build more infrastructure to natively support that."

"Microsoft are trying to do that," Jesse adds. "I think all of us as developers want to enable that middle ground between a hobbyist and a professional game developer.

Because there are a lot of people who are really talented and they just don't have a job that let's them either put their passion into it, or show their talent. So modding is a good way to do it."

I asked if they were worried at all about adopting these mods and changing the experience. "That's the great thing about modding," Jesse says. "It doesn't have to fit into what we see as the game's core story or development.

"*ARK* has such a huge player base that the best mods bubble up by how many players are playing them, who's subscribing to them and it's really evident when you go through all of the Steam Workshop pages for all the mods which ones are the best.

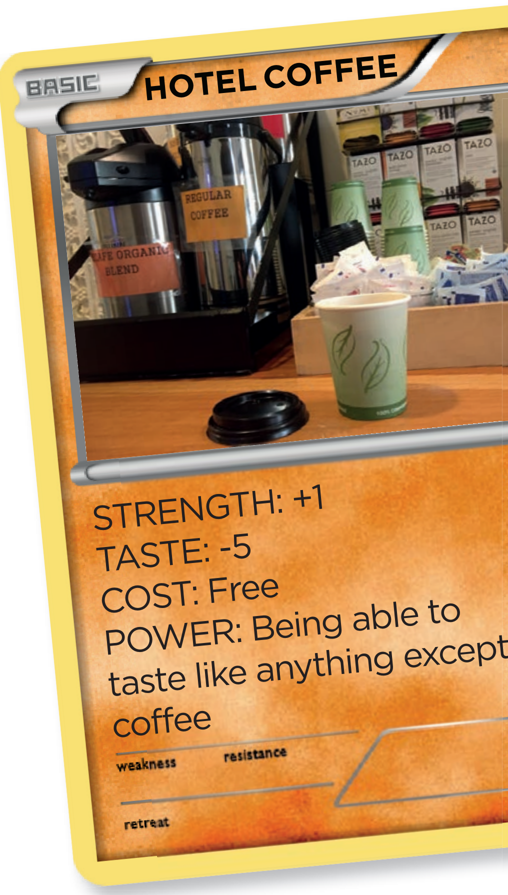
"It's kind of a thing that takes on a life of its own outside of the core development and we love that. Because it's all this stuff that maybe we think is cool or maybe like to do but it's not on our roadmap.

"It's definitely one of those double edged swords where mods will make a game look crappy if they design a level that looks really bad. And they can see all our dirty laundry, they can see our test files, our statistics. Everything but the source code is available to the public. But it's okay, that creates a lot of transparency and we don't have anything to hide because of that."

The game has grown to become more of the sum of its parts and Studio Wildcard is always trying to find ways to compensate its dedicated modding community. But as Jeremy concludes, the potential to mod your game should be your primary concern as a dev.

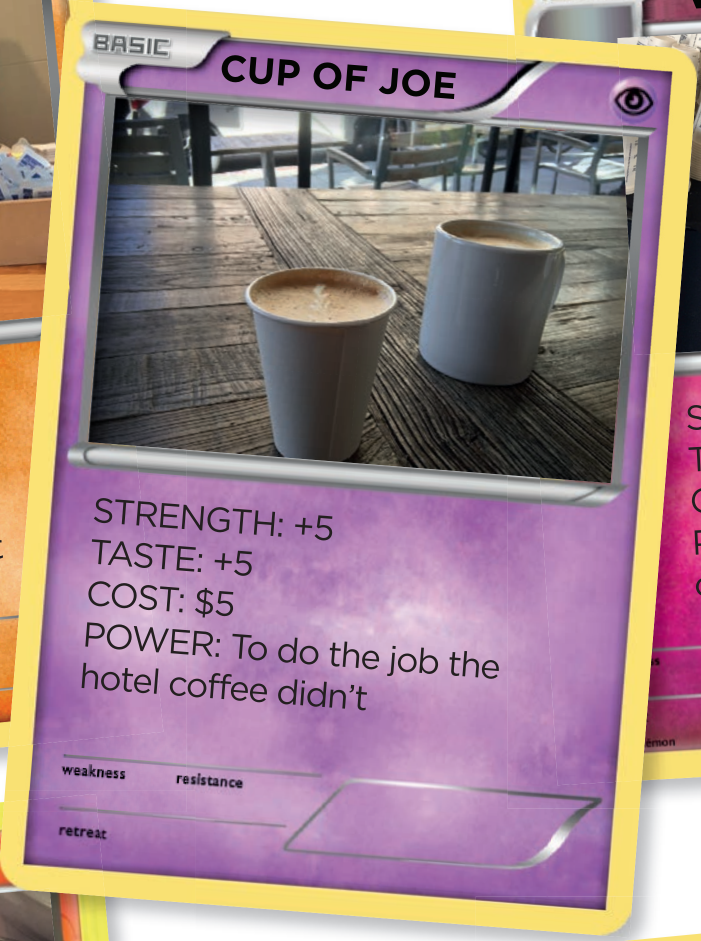
"We can't do everything that players want to see in the game. We're just not that big or that omnipotent, so mods are really a way for players themselves to plug the inevitable gaps. If you're developing a PC game specifically, you're really selling it short if you're not thinking about mods.

But what if you're a modder? "Don't be afraid to jump right in," Jesse offers. "As a toolset, the Unreal Engine is not uncommon in the industry. So you're not wasting your time learning something super proprietary. If you're making *ARK* mods, you're doing some of the most complicated modding you can do right now with and industry standard tool. You're building skills that you'll be able to apply in your career and in other games that enable modding or use the Unreal engine." ■


BASIC
weakness
resistance
retreat

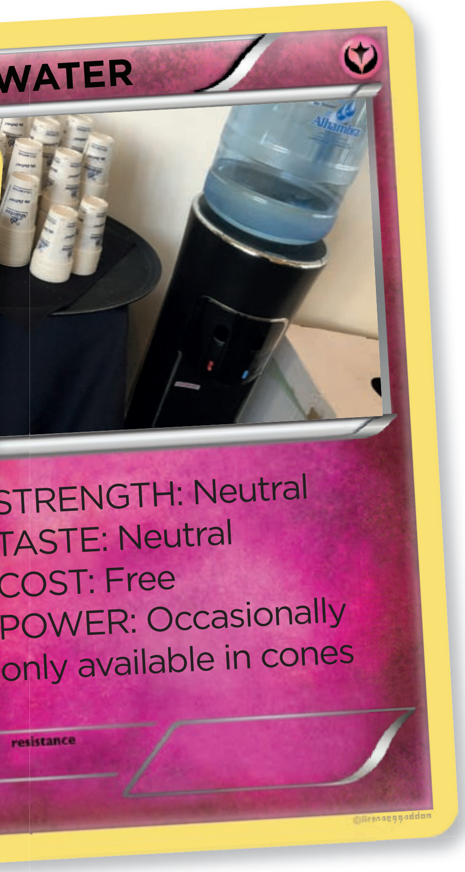
HOTEL COFFEE

STRENGTH: +1
TASTE: -5
COST: Free
POWER: Being able to taste like anything except coffee


BASIC
weakness
resistance
retreat

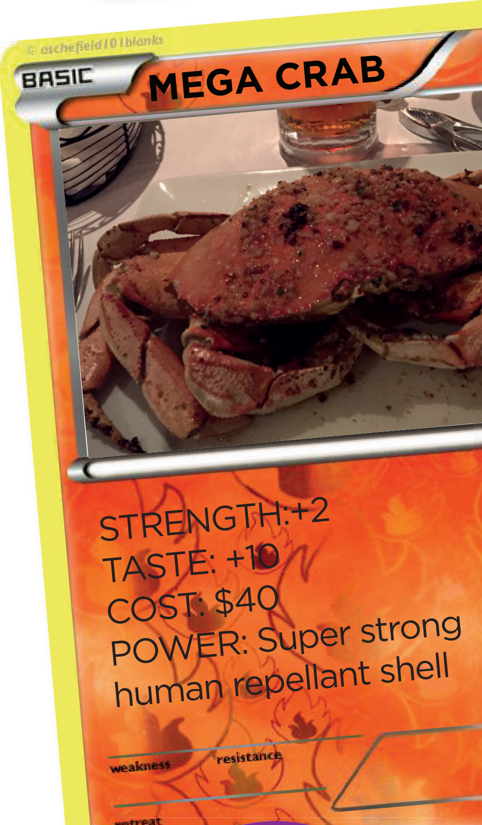
CUP OF JOE

STRENGTH: +5
TASTE: +5
COST: $5
POWER: To do the job the hotel coffee didn't


RESTORED
resistance

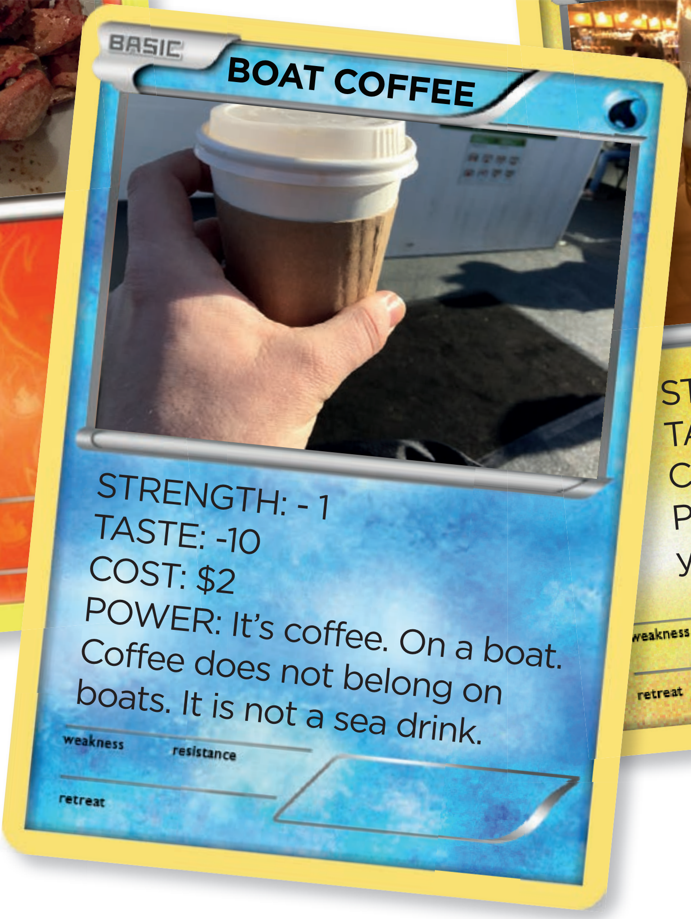
WATER

STRENGTH: Neutral
TASTE: Neutral
COST: Free
POWER: Occasionally only available in cones


© aschefield101blanks
BASIC
weakness
resistance
retreat
©2011 Pokémon

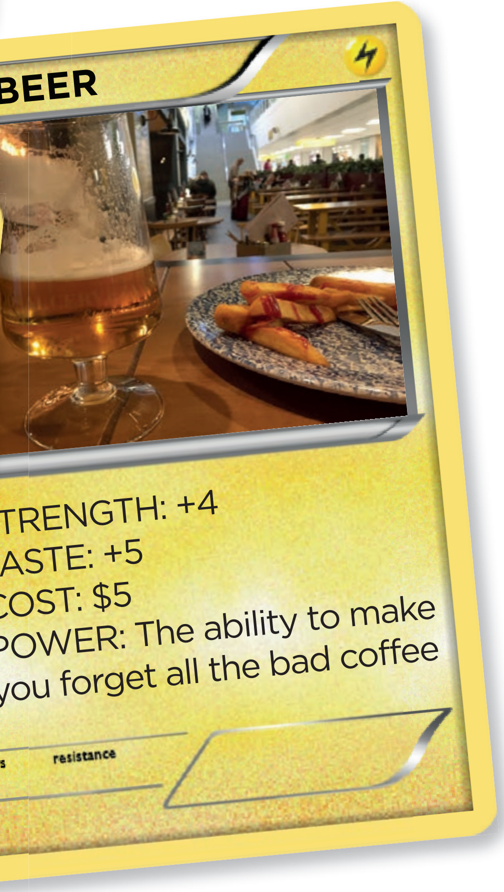
MEGA CRAB

STRENGTH:+2
TASTE: +10
COST: $40
POWER: Super strong human repellant shell


BASIC
weakness
resistance
retreat

BOAT COFFEE

STRENGTH: - 1
TASTE: -10
COST: $2
POWER: It's coffee. On a boat. Coffee does not belong on boats. It is not a sea drink.


BASIC
weakness
resistance
retreat

BEER

STRENGTH: +4
TASTE: +5
COST: $5
POWER: The ability to make you forget all the bad coffee

Until next time...

TOBACCO DOCK
BOSS
MAYOR

LONDON GAMES FESTIVAL

Schedule Highlights

EGX Rezzed 30 March to 1 April Tobacco Dock	**Games Finance Market** 4 April to 6 April The Grange Tower Bridge
Dear Esther Live 1 April St John's at Hackney	**BAFTA Games Awards** 6 April Tobacco Dock
AI Summit 3 April Regent Street Cinema	**Now Play This** 7 April to 9 April Somerset House
Mixed Reality Summit 4 April Regent Street Cinema	**Games Character Parade** 8 April City of London

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LONDON GAMES FESTIVAL

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